

VERBUM

VERBUM

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JOURNAL

OF

PERSONAL

COMPUTER

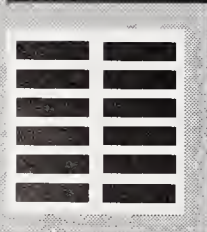
AESTHETICS



GALLERY: LIFE CLASS
AMIGA VIDEO
BIG BLUE ART
OLD TOOLS, NEW TOOLS

A NEW WORLD OF POSTSCRIPT
Top Graphics Programs Compared
Lino Color Separations
First Contact: CricketDraw





VERBUM 1.2 Spring 1987

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C O N T E N T S

4 Introduction

COLUMNS

8 The Artist's Toolbox

by Michael Singleton

On the Wings of PostScript

A search for the ultimate graphics package leads the author to analyze and compare Adobe's Illustrator, CricketDraw, two font editors, and four special effects programs.

13 Desktop Techniques

by John Baxter

Old Tools, New Tools

Author Baxter explores the parallels between traditional artists' tools and today's software implements.

23 First Contact by John Odam

Verbum's art director encounters CricketDraw.

26 New Frontier Products

edited by J. C. Brown

Today & Tomorrow

Brief reviews and previews of hardware, software, and otherware of interest to graphic artists and the artistically interested.

FEATURES

5 Amiga Video by Gia Rozells

A glimpse at the Amiga's capabilities and what some graphic artists are doing with this most animated pc.

18 Painting as Spiritual

Discipline by Jack Davis

Making the ink "flow" is the secret of MacCalligraphy 2.0's unique success as a personal computer art medium.

20 Big Blue Art

by Michael Kelly

A look at how producing graphics on the PC and its clones compares with making art with the Mac.

32 Lino Seps by Mike Saenz

Kaleidoscope foretells the arrival of color separation on the desktop.

24 Digital Studies

by Malcolm Thain

Pixelized human forms in motion and at rest by Australian artist Thain.

29 through 5 The Word Takes

Form by Jack Davis

Digital artist and editor Davis used the Transform feature of Adobe Illustrator to produce this old-fashioned (flip-book) animation. Watch "Verbum" take shape as you flip forward from page 29 to page 5.

15 GALLERY — Life Class

Studies of the human form by artists Jack Davis, Nira, Nathan Weedmark, Stephen Bradley, Kathleen Sanderson, and Beth Kurtz.

36 VERBUM 1.3

A Preview of the Late Summer issue.



SOMETHING NEW

Most would agree that the first time something is created is the hardest. [English biologist Rupert Sheldrake's morphogenetic theory holds that a morphogenetic field links all life forms on earth. Any new pattern in nature is difficult to achieve the first time, but afterwards is easily recreated since the morphogenetic field "blueprint" now exists. Classic example: the "hundredth monkey" study of a group of monkeys on separated islands who *all* pick up a valuable new behavior after one enterprising female learns to wash her potato before eating.] Certainly, the first issue of *Verbum* was difficult because we were pulling together a new concept, dealing with a new technology, a new art form, and a new market — all still embryonic. During our gestation process we were met with some confusion and skepticism, even shock; but for the most part we were met with positive, often emotional, reactions. This encouraging response came from artists and developers of art-related products, and also from non-artist users, who were excited to see this dimension of the new pc's given an appropriate publication. After all, we've certainly seen enough pretty pictures on pc screens in ads and read enough about the latest graphics or desktop publishing package. But how often do we see the *creative* results of these "creativity tools"? *Verbum* offered the promise of an ongoing gallery and an aesthetically sensitive context for exploring this new frontier. And judging from the steady stream of subscriptions, growing industry recognition, and enthusiastic coverage in *Advertising Age*, *ADWEEK*, *Small Press Magazine*, and elsewhere, we're making good on the promise.

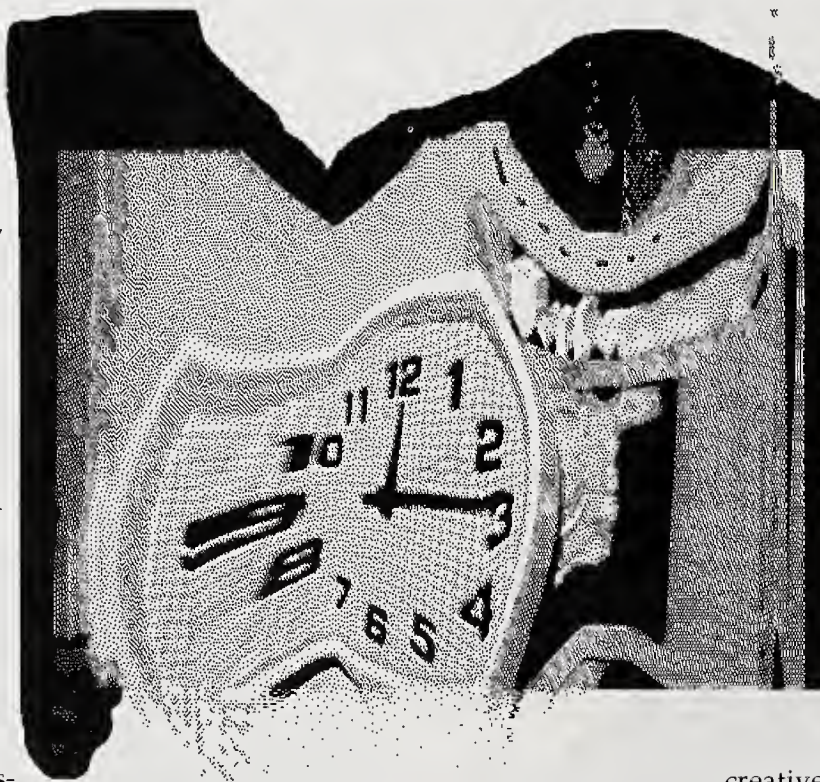
Now that we've established this new genetic pattern, there's some momentum carrying us. (If language is a virus as Bill Burroughs wrote, we've a potent new strain here.) Issue 1.2 shows in

many ways the broadening scope of personal computer art.

THE ELUSIVE DIGITAL ARTIST

What is *Verbum's* market? Advertisers want to know. Artists want to know. Inquiring minds want to know! And for good reason. This personal computer art market is charged with excitement and big bucks, but remains difficult to quantify. Where "desktop publishing" leaves off and original art and design work begins is hard to establish. The graphic artist who just bought a Mac and the high-end video system animator who just bought an Amiga are pretty different animals. The only common denominator, as far as our primary market is concerned, is price — artists working with systems ranging from \$2500 to \$10,000 tops.

What we've found is this: with all the



promotional hoopla about graphic and desktop publishing programs and equipment, with Apple's inherent aesthetic awareness, with other computer manufacturers following suit (even the Big Blue suit), with Letraset's investment in the new technology, and with the growing realization in the graphic arts community that this is the future, *there are still relatively few artists actually working on a day-to-day basis with these tools*. Sure, anyone can put together a desktop publication with a little clip art, but it takes time to

master MacDraw, not to mention Deluxe Paint II, Pro 3D, or Illustrator. Investing dollars in a system is one thing, but investing the required time is another. This market is still far from established, and we suspect that products enjoying strong sales in 1987 may find themselves eclipsed by better products or superior marketing efforts in 1988–89, when practicing digital artists in ad agencies, graphic design firms, and corporate marketing departments become less the exception and more the rule.

ON THE ROAD TO NOWHERE?

Referring to Melvin Pruitt's comparison of computer art with the Renaissance, *Ad Age* observed that *Verbum* was setting out to "do a better job chronicling the new age" than journalists did in medieval Europe. Well, we'll certainly do our best. But given the

situation, we're more concerned with helping to *catalyze* this new world of digital art rather than follow it. So here's your challenge, artists: express yourself with the new tools. Let us see what you're up to. We're all interested in innovative commercial work — logos, ads, etc. But *Verbum's* call is for originality — work that stimulates the fine artist in us as well as the art director, that takes advantage of the unique capabilities of the technology, that transcends traditional boundaries. Although the printed *Verbum* emphasizes print, we are equally curious about video, animation, music, and other

creative applications. With CDI, color, and more memory for less money, the various forms of pc creativity will come together so that a 1986 Talking Heads music video may have more in common with an inexpensively produced 1989 marketing presentation than you might think.

We may be on the road that's still less travelled, but we're certainly going somewhere!

—Michael Gosney

A Most Animated PC

AMIGA VIDEO

■ *Gia L. Rozells*

The Macintosh environment was the jumping-off place for the explorations of pc digital artists, and the Amiga environment provided the next plateau. It opened new territory for bit-mapped and object-oriented color graphics, animated video, and music.

Inside the Amiga

The Amiga's hardware and software design make it the right tool for many applications. Its 4,096 colors and its graphics software take this microcomputer into the artist's, animator's, and architect's studios. And with its four-channel stereo sound and program-

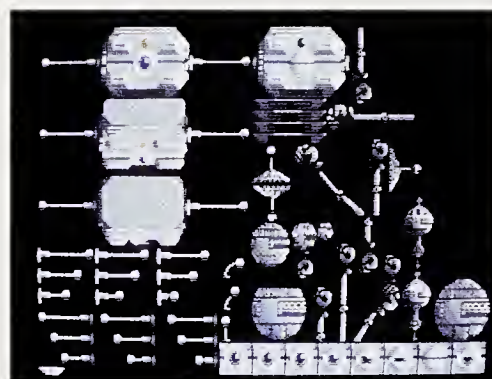
mable digital sampling capabilities, it can compete with dedicated synthesizers in helping musicians to sequence, sample, and write music. Beyond this, it's a powerhouse, using multitasking, speed, speech capability, and expandable memory.

Multitasking means you can run several different programs at once — a word processing program, a paint program, and a page layout program, for example, each running in its own window. With a little planning, you could run up to 50 tasks simultaneously. The result of multitasking is increased productivity and the creative freedom that comes from being able to assemble a large collection of tools

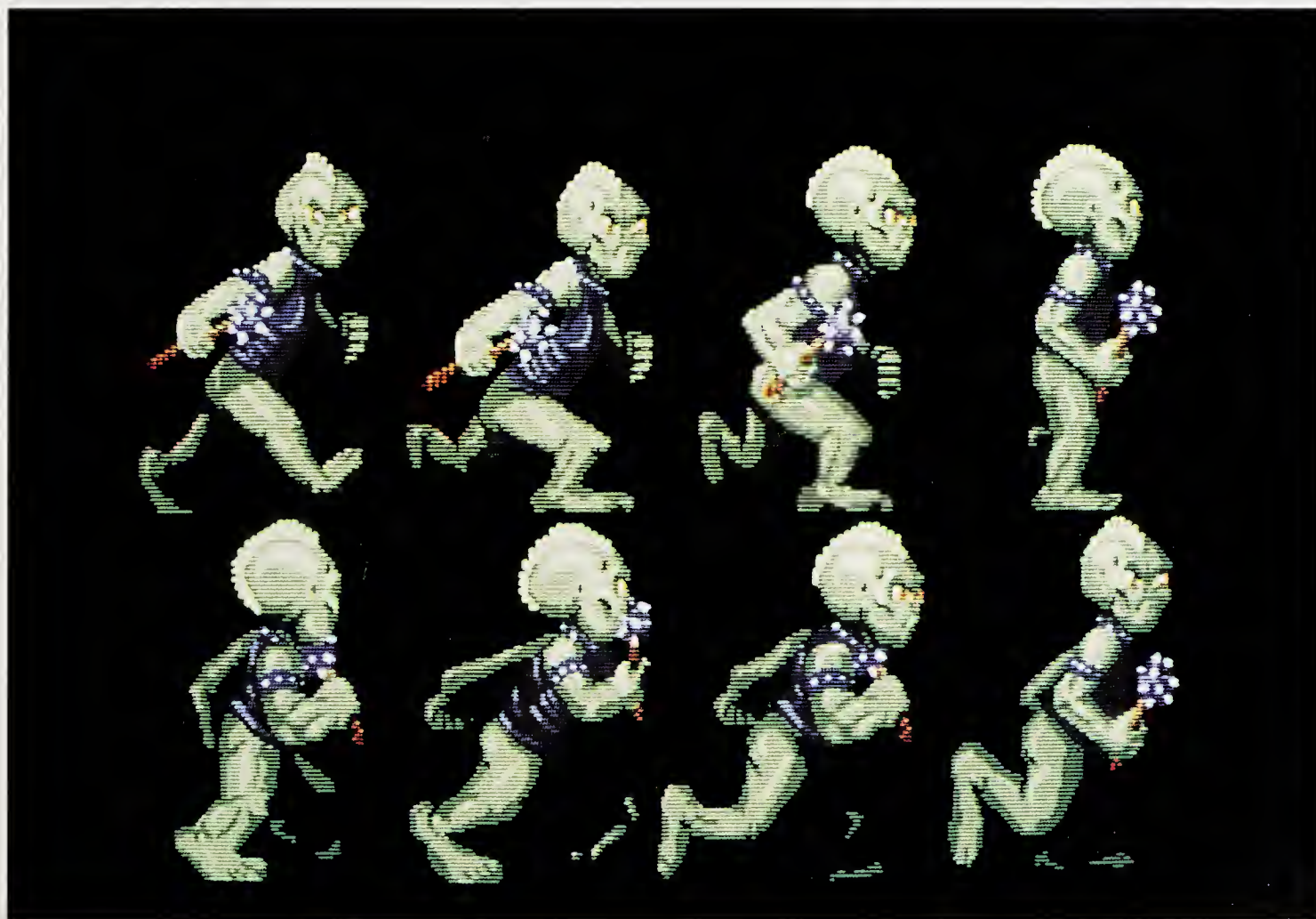
1. Eight frames from an animated sequence by Richard Payne. The lizard man was drawn in Deluxe Paint and Deluxe Paint 2 and then animated as an experiment to test the smoothness of Animator's cel function.

2. Payne's sequence of robots, designed as a promotional piece for his own computer graphics business, was adopted by Aegis for use as a dealer demo.

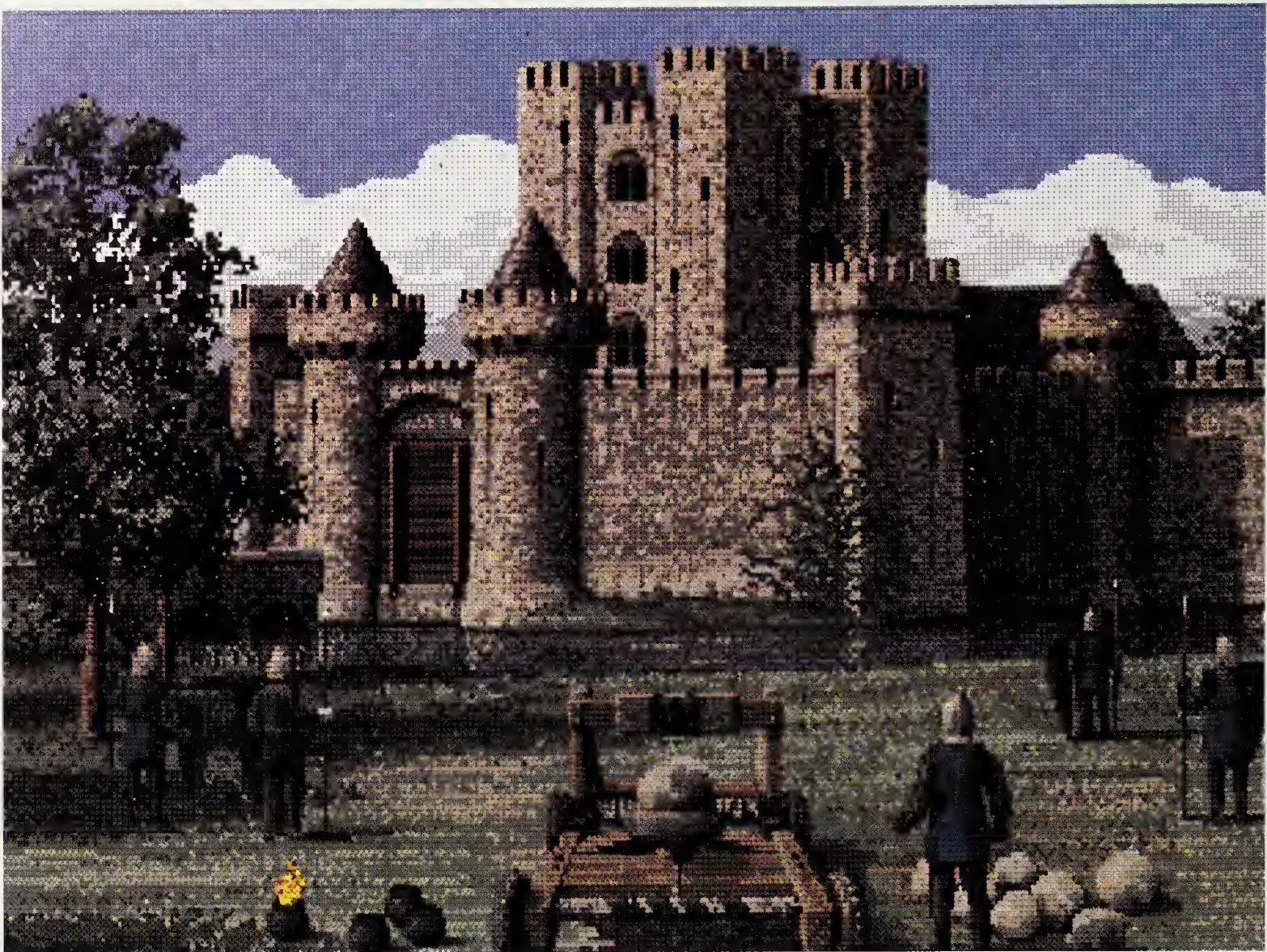
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and to move easily from one medium to another.

How can a personal computer costing less than \$1500 provide capabilities previously available only in \$20,000 systems? Simply put, where most pc's have only one microprocessor, the Amiga has three. The Motorola 68000 microprocessor, known for speed and reliability, serves as controller, a 6500 microprocessor is dedicated solely to reading the keyboard, and a special coprocessor is devoted to graphics management. Two more specialized chips provide speech and sound capabilities.

The Amiga's operating system, called Intuition, is stored on disk rather than on ROM chips. You load Intuition into RAM when you start the computer. The environment is then menu and icon driven and mouse controlled.

The Amiga software from Commodore-Amiga and third-party developers takes advantage of the machine's capabilities. The artistic programs, in



Jim Sachs of Lake Arrowhead, California, who now illustrates games and other software for Aegis, produced these illustrations with DeluxePaint (see New Frontier Products). They were printed on a Xerox 4020. Jim began working with the Amiga without previous art training.

particular, are at the frontier of today's software design. Looking at just one area, animation, reveals Amiga's creative power.

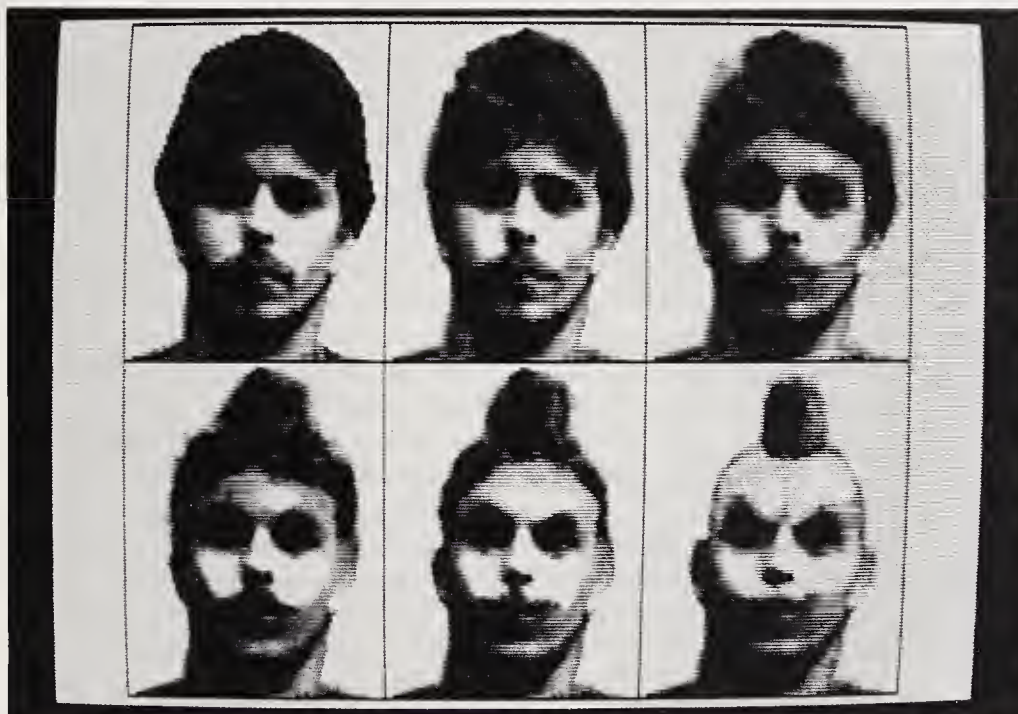
Amiga Animation

Classic character animation was a dying art. High costs and changing markets were hastening the demise of the techniques used in such feature-

length cartoons as Disney studios' *Steamboat Willie*, *Fantasia*, and *Bambi*. Computers have helped animation make a comeback. Now, for under \$3500, animators around the world can have an artistically satisfactory animation system based on the Amiga, and many have already begun creating animation to be used in videos shown on the Amiga monitor or recorded on



San Diego's Bill Gerlog digitized some of Muybridge's original prints using his Amiga and Digiview, a software package by New Tek. Gene Brawn then hand-colored the figures using Deluxe Paint by Electronic Arts, and animated them with Aegis Animator to create this sequence of a woman jumping over rocks.



Payne turned a friend into a punk rocker, scanning in the original portrait with DigiView and modifying and animating it with Animator.

film or videotape.

In San Diego, graphic designer Gene Brawn has originated DigiPix, a pioneering, low-cost animation company serving the broadcast, industrial, and educational markets. He creates animated title sequences and logos, cartoons, music videos, and animation for industrial and educational videos, films, and software.

In a recent piece, Gene recalled the impact of early photography on artists of the late 1800's and early 1900's. With the advent of cameras, artists could for the first time stop an object in motion and, by creating sequences of pictures, show its exact movements through space over time. Eadward Muybridge was the first to string black-and-white photographed images together into a crude animation. His subjects were animals, especially horses, and people. Muybridge used batteries of up to sixty still cameras, their shutters tripped in succession by the moving subject, to obtain

his series of pictures.

With the Amiga, modern artists have a new tool for stringing static images together and putting them in motion. The new techniques are far more sophisticated than that of Muybridge, and far less complicated, costly, and time-consuming than those of Disney. Animator, created by Aegis for the Amiga, is a metamorphic program with which you can create an object and then change its shape or position on the screen without redrawing it. For example, to show an airplane taking off and flying through the clouds, you would draw the plane and drag it with the mouse to indicate where it starts and ends its motion. Menu selections allow you to choose various timing settings that determine how long the plane takes to get from starting point to ending point. You can use mixing techniques to add music or other video and audio elements, and tape the animation on a videocassette recorder if you wish.

Do you begin to see the potential? The software available for the Amiga is, in Gene Brawn's words, "the most

powerful . . . available for any micro." This means it makes the current *blendo* style of animation available to all of us. In *blendo*, elements from many sources — for instance, digitized, hand-drawn, and real-time images — are combined and used in one animation. You've seen it in the Cherry Coke commercial by the Charlex animation house, in which static drawings, animated drawings, and real-time sequences of human dancers are all blended on film. But did you expect to be able to generate *blendo* on your own personal computer?

Amiga Output

Amiga art looks great on the screen, but what about hard copy? Even if the final product is animation, it's nice to be able to generate sample output in a form you can display without a machine. One way to transfer Amiga images to paper, whether stand-alone images or printed samples of animation, is to use the Xerox 4020 color ink-jet printer. Another is to make color prints from screen shots taken with slide film. In Canwood, New Jersey, graphic artist Richard Payne gets good color reproduction by shooting at 1/100 of a second, wide open, using a 35 mm camera, tripod, shutter release, and Ektachrome 400 ASA film. Bowing of the image can be avoided by keeping the picture below the menu bar and an equivalent distance in from the other screen edges. The illustrations that accompany this article demonstrate both Xerox 4020 and Ektachrome output techniques.

Gia Rozells has written four books about Amiga, Macintosh, and IBM applications. Most recently, she coauthored *Becoming an Amiga Artist*, the first comprehensive software applications and programming manual about the Amiga. Published by Scott, Foresman and Company, the book provides in-depth tutorials for using Deluxe Paint, Aegis Animator, and other software for business, art, and programming.



ON THE WINGS OF POSTSCRIPT

■ by Michael Singleton

When the first 128K Mac rolled off the production line, it entered the world with a revolutionary operating interface and a beautifully executed bit-mapped screen display. The 72 dots-per-inch (dpi) screen, though small, was a vast improvement over previous monitors, and printing from the machine to the 72-dpi ImageWriter was effortless. Apple had chosen the 72 dpi standard for a good reason: it matched font-measuring standards. A 12-point letter is displayed on the screen as 12 pixels high. But not even Apple at the time realized what was around the corner in higher-resolution output devices.

The Laser Connection

The Apple LaserWriter was almost as significant a product release as the original Macintosh. The LaserWriter was the first mass-marketed high-resolution printing device for microcomputers and is still considered to be the most powerful and flexible 300-dpi laser printer. PostScript, the page-description language adopted for the LaserWriter, allowed Apple to take advantage of the tremendous graphics potential of the Macintosh, which in turn helped to convince people that the Macintosh was ideally suited for generating high-quality output. The major pitfall of Apple's strategy was that the built-in QuickDraw routines locked into the Mac's ROM chips were not flexible enough to allow users and developers access to the full power of PostScript. Graphics programs spoke QuickDraw, while the printer listened for PostScript.

Making the Two Sides Talk

The interpretation that takes place every time a user sends a print command to the LaserWriter (or other PostScript printer), is relatively straightforward. The LaserPrep file found in the System folder does the translating. Fonts come out clean and crisp, and the lines in object-oriented

graphics are smooth. But QuickDraw has its limitations. For example, minimum line weight is 1 point, line weight becomes irregular as a line curves or changes directions, and line endings can be jagged for other than vertical and horizontal lines. Programs such as MacDraft that do not find a way around QuickDraw's limitations are really not appropriate for laser printer-based graphic production. In contrast, Aldus, makers of Pagemaker, developed their translator, called Aldus-Prep, to overcome some of QuickDraw's limitations.

The Ultimate Package

Up to now, anyone wishing to get high quality or special effects out of the Macintosh and a laser printer had two choices: learn how to program in PostScript or do the graphic production

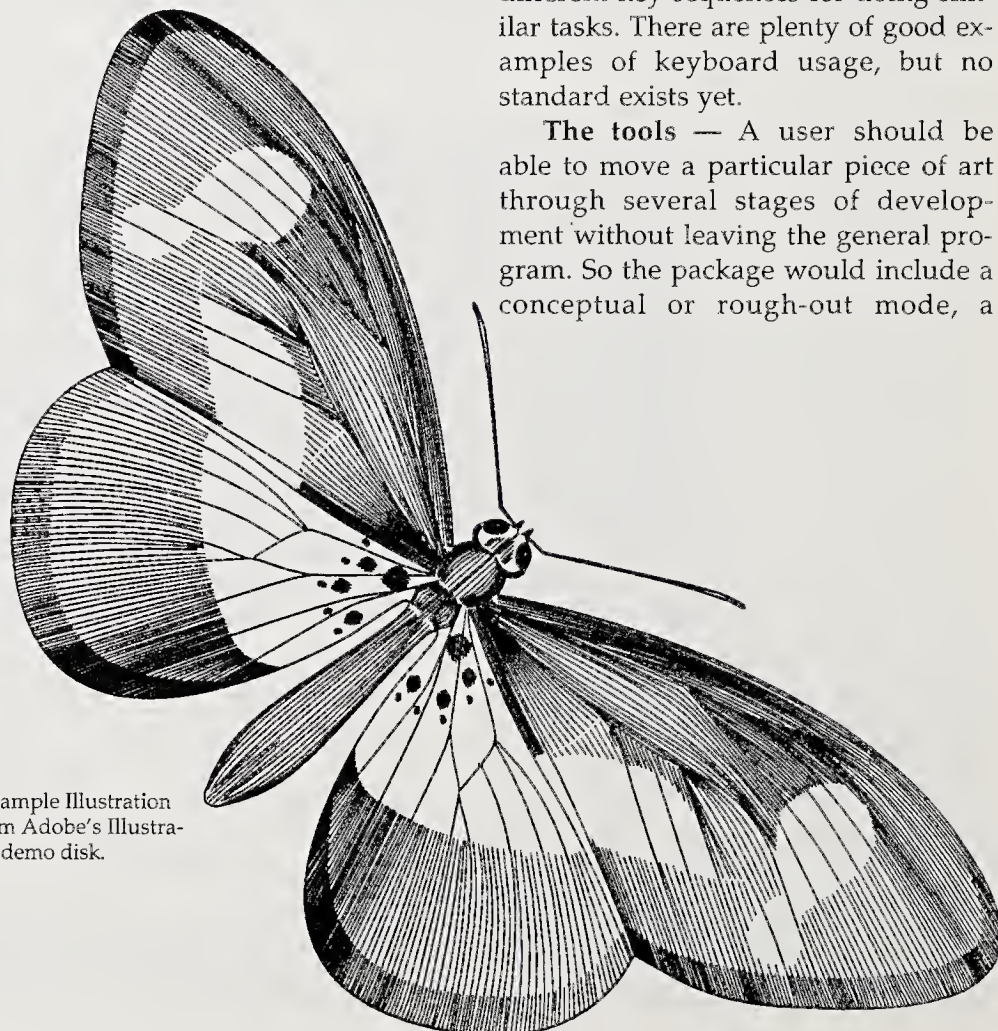
manually. Now there are several more options.

Unfortunately, no one of the new graphics packages available for the Mac can meet all of a graphic artist's production needs. It still takes a combination of several programs and manual methods to accomplish full production. What will a program have to contain to be considered the "Ultimate Graphics Package"?

The language — The graphic standard is and will remain PostScript, plain and simple.

The interface — The ideal program should build on past Macintosh interface standards, not chart a new course just to be different. It must be intuitive and easy but must still allow the power user to learn all of its features and keyboard shortcuts. Many of the new programs rely on the keyboard for control functions. This is fine, but far too many programs use different key sequences for doing similar tasks. There are plenty of good examples of keyboard usage, but no standard exists yet.

The tools — A user should be able to move a particular piece of art through several stages of development without leaving the general program. So the package would include a conceptual or rough-out mode, a



A sample illustration from Adobe's Illustrator demo disk.

SOFTWARE SOLUTIONS THAT RELEASE THE POWER OF POSTSCRIPT



The graceful lines of an old DC3 are perfectly suited to Adobe Illustrator. The base drawing was first scanned in from a 1940's book using ThunderScan.

painting package, an inking module for refining, full text-editing capabilities, page composition, color separation, and final output control. At the very least, files must be compatible with page make-up software.

The product — The end result of the artist's efforts must be of high quality and accuracy and must include full typographic control. This usually means output on a Linotronic 100, 300, or 500 image setter.

Close, but No Cigar!

All of the programs reviewed here fell short of being the "Ultimate Graphics Package," but several companies have made substantial improvements over the old QuickDraw to LaserPrep to LaserWriter to the wastebasket and start over routine. The developers deserve credit.

Of the eight programs reviewed here, two come close to being the "Ultimate Graphics Package." The programs fall into three categories: drawing tools, font editors, and font effects.

Drawing Tools

Adobe's Illustrator Adobe developed PostScript, so it's no surprise that they've produced a very high-quality graphics package that takes full advantage of the language. Perhaps its most important feature is the ability to create a line of consistent weight that includes straight, angled, and curved segments. Before Illustrator, you had to use a freehand or polygon tool, or join geometric primitives to produce this kind of line work — difficult, and the results were less than ideal.

Probably the second most important feature of the program is its ability to specify, by points or fractions of a point, all line weights. Programs that rely on a standard translation from QuickDraw to PostScript through the LaserPrep file cannot accomplish this.

Illustrator can import MacPaint or PICT files and place them in the background of the drawing layer. It locks the template in position and screens

back the image to make it easier to distinguish the template from the new artwork. The user can toggle to view the artwork along with the template, the template alone, or the artwork alone. Illustrator provides excellent control of fill patterns (screens only, however), line screening, end joins and shapes of lines, custom-made dashes, and several functions for cutting, joining, averaging, and merging PostScript paths. Drawn objects can be scaled or distorted by precise or proportional methods, rotated, and mirrored or duplicated along any constrained angle. Whereas most programs that zoom accomplish the task by increasing the pixel count by multiples of four, Illustrator draws to the screen very precisely when zoomed.

Users will have to try really hard to find faults with Illustrator. But to save you some time, I'll mention some shortcomings I've found. First, the text capabilities of the program are limiting. Most commercial artwork requires a close integration of graphic and text elements, and an ideal graphics program would support this approach. Illustrator can handle text, but you can't mix type styles in the same text block. Letters must be rotated or bound along geometric or irregular paths one at a time. Editing must be done through a dialog box. These are not major shortcomings, but they make Illustrator less than ideal for producing a project that is mostly text with a few simple graphics.

The ruler is set at picas and points, a common graphic standard. But the program should offer the choice of inches or centimeters. And objects are moved in a nonstandard way. The image of the object remains in position, and a duplicate is moved with the cursor. This can be confusing if you're trying to move the object just slightly. Finally, Illustrator cannot display dimensions as an object is being formed, or align objects along a grid system or to each other.

I have to emphasize that the program is very strong, contains very few

bugs, follows the Macintosh interface well, and puts very powerful tools in the hands of users willing to learn them. Illustrator excels at creating curved or complex lines and is great for tracing other artwork. If you don't own a Mac Plus, however (Illustrator requires a Plus to run), or if you are creating geometric artwork that needs more precise control and dimensioning capabilities, then CricketDraw may be more appropriate.

CricketDraw Unlike Illustrator, CricketDraw is an extension of earlier object-oriented programs like MacDraft and MacDraw in that it uses a similar tool palette and overall approach. But CricketDraw improves many of the drawing functions, adds much more control of each object, and provides several special effects that might otherwise be very difficult to produce.

The program's most powerful feature is its ability to control several PostScript parameters, such as stroke pattern, width, and intensity; fill intensity for graphics and fonts; and color. The second most powerful feature of the program is its ability to rotate text to any degree and, more important, to rotate and bind text to irregular curves or geometric shapes.

The ability to produce fountains (gradations of tones) within any enclosed object is very useful. Creating shadows from objects or text is also a nice and sometimes important feature. The ability to make grates (a series of equally spaced lines) is also very handy, especially for tables, for example.

The starburst tool, which draws a variable number of lines radiating from a central point, could be very important for some users, but I doubt that it's essential for most of us. The same goes for the diamond tool, which simply draws diamonds. The diamond tool could, for example, have been a more generally useful tool that allows the user to create geometric shapes with equal sides such as triangles and octagons.



POSTSCRIPT APPLICATIONS COMPARED

DRAWING



Illustrator



CricketDraw

FONT EDITORS



Fontographer



LaserWorks

FONT EFFECTS



LP Text™



TextEffects



LaserCraft



Laser FX

POSTSCRIPT Screen display of PostScript objects



Screen display of PostScript effects



PostScript code editing



Printing speed from within program



TOOLS

Bezier curves



Compound PostScript paths



Simple geometrics, straight lines



CONTROLS

Constraining (lines, movement, etc.)



Grid snap, guides



Rules



Specifications, dimensions, etc.



Zoom, enlarge



Auto-scroll drawing tools



Grouping, locking



Alignment of objects



Fill control (fill patterns)



Stroke control (pen patterns)



Miter, line-end controls



EFFECTS

Gradation fill (fountain)



Shadow effects



Stroke text patterns, line weights



Graphic and text editing tools

R, S, D, M

R, S, D, C, M

R, S, D, M

R, S, D, M

R

—

R, S, D, M

R, D

OTHER

Several fonts per text block



Typographical control



Text effects



Simplicity, ease of use



Macintosh interface



Importing formats



File formats



Superior handling



Handled adequately



Handled well



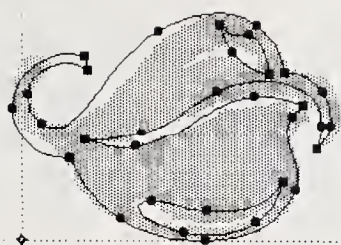
Feature or aspect missing

R = Rotate by degree
S = Scale horizontal, vertical
D = Distort or shear
C = Controlled duplication
M = Move objects in pixel increments

P = Fonts sized by points
L = Leading by point
K = Kerning metrics
O = Outline fonts editable
A = Control of ascent or descent

1 Macpaint
2 PICT
3 Postscript text
4 EPSF
5 Font resource
6 Clipboard

a = Irregular font rotation
b = Circular font rotation
c = Spiral font rotation
d = Spoke rotation
e = Shadow, blur
f = Radiating, star
g = Type-filled background
h = Gradation text fills



The anchor points used to create this dingbat, drawn in Fontographer, appear at far left. To obtain the best results, the fewest possible points should be used. The pleasing curves of the final result (right) are not too difficult to obtain.

CricketDraw provides the ability to select parts of a text block and to mix fonts, sizes, and styles. But you can't control leading, and it's difficult to align text. It's also difficult to select text (especially the first and last letters in a text block) by dragging across letters. This is probably just a temporary glitch that will be overcome in later versions.

Making a Choice The Macintosh community has already been swept up in long discussions comparing CricketDraw and Illustrator. My advice is this: If you can afford both programs, get them. If you must pick only one, look closely at the features chart at the left and choose the one that best suits your needs.

Font Editors

Font editors are designed to create font resources. Both of the programs reviewed in this category, however, also have the ability to produce high-quality graphics. Characters in fonts are usually thought of as text, though PostScript views them as outlines of objects. In a PostScript printer, a letter is drawn by the raster imaging device just as a graphic object is. The major difference between graphics and fonts is how they are retrieved as resources. A graphic image is saved as an object in a file and can be transferred between programs via the Clipboard or the Scrapbook file, or between programs that can read different file for-

ats. A font resource is as close as your keyboard and can be accessed from any program.

Creating an entire font family (256 characters) is a complex and time-consuming task. Each character must be created from scratch. All characters are made up of a combination of PostScript paths: straight lines, diagonal lines, tangent points, and curves. These PostScript paths must be continuous, and they must join precisely. An associated bit-mapped image of the font must also be created for screen display. For most of us, the real utility of these text-editing programs is the ability to manipulate existing fonts, to trace over bit-mapped or scanned fonts, or to create special effects or graphics. Still, if you need to create a family of fonts or a special character, symbol, or logo accessible in all programs including straight word processors, then using a font editor is the way to go.

Fontographer Fontographer lets you create and manipulate font resources and edit existing fonts. But it still takes time and experience to accomplish professional results. The tools for drawing the PostScript path are straightforward. The program provides a window that can import a traceable template and a layer of grids and guides. The measuring devices are very precise, though they may take a little getting used to at first. The many features, dialog boxes, and options presented are set at standard defaults that can be left alone unless you need precise custom control.

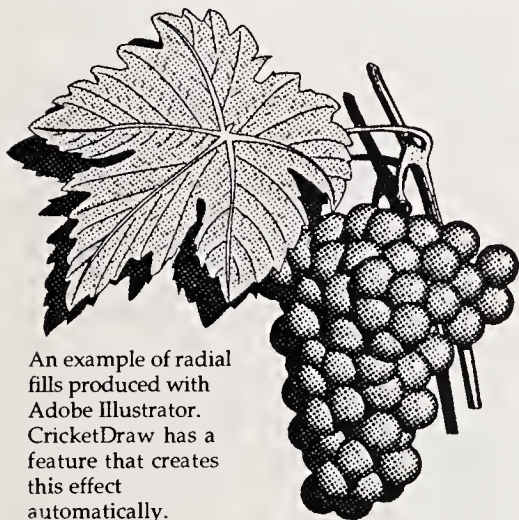
Creating graphic images in Fontographer is not difficult, if they can be produced by the tangent, straight line, or Bézier curve tool. You do have to pay attention to the way you establish the PostScript path, since the filling of an object is controlled by the direction of the path. Developing a graphic element automatically generates a bit-mapped version of the PostScript outline, though the bit maps generally have to be edited with the Fontastic

feature to be readable on the screen. Creating an image in a font-editing program allows you to scale it to any point size (limited only by the font selections in the particular program you use it with) and to produce italic, bold, and outline versions, for example. These added advantages, however, must be weighed against the difficulty and limitations of the font editing program and the length of time it takes to produce the object.

LaserWorks If you're not about to take the time to create a full font family and if you want to produce special symbols or logos with a minimum of effort and cash, LaserWorks may be more appropriate for you. The program has nearly all the features of Fontographer, and some individuals may find it easier to use. I say "may" because the LaserWorks graphics interface breaks from the Macintosh standard when it doesn't need to. The lack of standard menus, scrollable windows, tool palettes, and dialog boxes is very evident. LaserWorks contains most of the elements and tools necessary to develop complex and precise graphics. Unfortunately, most of this power is hidden, at least from me, behind garish symbolism and unclear icons. The developer would do well to rework the editing screens, icons, and cursor symbols. On the other hand, many people may find the interface acceptable and the program perhaps even easier to use than Fontographer for creating the same sorts of products.

Font Effects

The last four programs reviewed here fall into the category of special text or font effects. They apply special graphics or PostScript effects to font resources, whether they're built-in LaserWriter fonts, downloadable fonts, or custom characters. They are definitely to be used for special purposes; but used appropriately, programs such as these can be very valuable in your tool box.



An example of radial fills produced with Adobe Illustrator. CricketDraw has a feature that creates this effect automatically.



VERBUM

One of the many special effects that can be wrought with type using Laser FX. The program is currently limited to resident fonts.

LaserCraft Postscript programming is not as difficult as it seems on the surface. Once you know and understand the few tools, effects, and terms, it's easy. The most straightforward way to program using PostScript is to take an existing PostScript file and manipulate it in a text editor. By altering a few of the words or control commands, you can develop some very interesting and useful effects.

LaserCraft is a collection of PostScript program files that you access through a word processing program such as MacWrite or Word. The author has provided numerous comments (text descriptions preceded by a % sign so they don't affect the running of the programs) to help the user locate and understand the structure of the file. Once the file has been modified, it can be downloaded with the PostScript download utility to the LaserWriter. The manual that accompanies LaserCraft is a very good guide and shows instructive example products of all the files.

What this program does best is to excite the user about programming in PostScript. It is also very useful for producing particular text and graphic effects. But it doesn't let you preview your results on the screen. You must learn to rely on printing samples and adjusting the PostScript code until you get it right.

LP Text LP Text provides access to PostScript through a user interface rather than through complicated programming sequences. Several different text effects are selected from a library (the program relies on a version of Omnis 3 to store the information you create for these special effects). Once you've selected a sample similar to what you want, the program prompts you to enter information to vary it. You can then print your sample, save it as a PostScript file, or save it in the standard library format to be accessed later.

Unfortunately, LP Text is very limited in its effects. It rotates text along

arcs and around circles. It also produces some interesting shadow effects with text. But that's about it. If you need circular text, then it's a great buy. If you don't, choose LaserCraft or one of the programs below.

Text Effects From far away in Scotland comes another approach to tapping the power of PostScript. The program consists of ten files of text effects that the user launches (double clicks) as templates. The program asks for the text you wish to print, the font, and generally a few other variables. All that's left to do is print. But you can't save the file or transfer it to another program. Text Effects assumes that you are going to print the item and then manually paste it up, but I'm sure the developer of the package will soon offer a version with more options and the ability to save results as encapsulated PostScript files (EPSF). For now, the program is great (and easy) for producing print-outs of certain effects.

Laser FX I've saved the best for last, at least in my opinion. Laser FX not only offers the ability to fully manipulate special text effects, but it does so in a manner that yields the most combinations. The program boasts that it can produce an almost endless number of text effects. Any font, size, or style can be used along with 30 menu options for effects and several user-defined options. Also, any effect can be rotated by degree or tilted. The files can then be printed or saved in EPSF format or regular PICT format. In addition you can import PICT files created in SuperPaint, MacDraw, or MacDraft and display them on screen. This allows you to see how the text effect will sit on the printed page. You do not, however, have the ability to see the effect on screen, only a standard text representation of the image.

Around the Corner?

The future is bright for graphic design and production on microcomputers,

especially with the new technology becoming available in the Macintosh II and IBM's Personal System 2. PostScript has an equally bright future, with both Apple and IBM endorsing it. Several developers are working on the "Ultimate Graphics Package" right now. Look for LaserPaint from LaserWare (I hope they improve on the interface), Canvas from Deneba Software, and others. These programs claim to be able to provide full painting, drawing, illustrating, text editing, page make-up, and production of four-color separations. They will undoubtedly be using PostScript directly. And most of the manufacturers of the programs reviewed in this article will be coming out with new releases that will overcome some of the earlier limitations.

But don't wait around. If you want full control of your printing on PostScript printers, then either you need to learn how to program with PostScript or you need one of the tools reviewed here. You won't be able to tap your Mac's full graphics power without learning or using the language your printer speaks. Let your graphics fly — on the wings of PostScript.

Michael Singleton is a Macintosh computer consultant specializing in the fields of architecture, planning, and graphic arts.

Illustrator
Suggested retail \$495
Adobe Systems, Inc.
1870 Embarcadero Rd.
Palo Alto, CA 94303
(414) 852-0271

CricketDraw
Suggested retail \$295
Cricket Software
30 Valley Stream Pkwy
Malvern, PA 19355
(800) 345-8112

Fontographer
Suggested retail \$395
Altsys Corporation
720 Avenue F,
Suite 108
Plano, Texas 75074
(214) 424-4888

LaserWorks
Suggested retail \$299
LaserWare Inc.
P.O. Box 668
San Rafael, CA 94915
(415) 453-9500

LP Text
Suggested retail \$99
London Pride Inc.
1 Birch Street
Norwalk, CT 06851
(203) 866-4806

Text Effects
McQueen Ltd.
Elliot House
8-10 Hillside Crescent
Edinburgh EH& 5EA,
UK
(031) 558-3333

Laser FX
Suggested retail \$195
PostCraft
International, Inc.
9420 Reseda, Suite 476
Northridge, CA 91324
(818) 718-1598

OLD TOOLS, NEW TOOLS

■ John Baxter

This article is based on material from Macintosh Desktop Design, the second in a series of desktop publishing books by John Baxter. John has made the transition from the traditional approach of preparing printed material to producing desktop publications, and in the process has noted the parallels between the old tools of the trade and those provided in bit-mapped, object-oriented, and page make-up software. Here he makes comparisons designed to help both the traditionally trained and the pc-trained understand the parallels so they can make the best use of both sets of tools.

John Baxter attended Art Center College of Design, and teaches technical writing part-time at San Jose State University. As Director of The Baxter Group, he is currently developing desktop publishing software for the Macintosh. The Baxter Group is a Certified Apple Developer, and John also works as a consultant for Apple Computer.



Art brushes are used for a variety of applications in graphic arts. The most common uses are for rendering or touching up artwork, filling in large areas with ink, and lettering.

The **paintbrush** feature of Macintosh applications provides a variety of standard brush shapes. New bit-mapped graphics programs allow editing of the brush shape. The brush is also useful as an eraser. By choosing the white pattern and using a fine brush tip, you can erase small areas without entering FatBits.



The **airbrush** is used in graphic arts for retouching photographs and rendering artwork. Airbrushing is a graphic specialty that takes much skill to do well. Today there is a trend in airbrushing toward surrealism.

The **spray can** feature has recently been enhanced in some graphics programs so that the spray can be edited, giving the user much more control.



The **ruling pen** or a **technical pen** such as a Rapi-dograph, Leroy, or Mars, is used for inking straight lines. The ruling pen is adjustable, and the technical pen comes in a range of line widths.

The **line** (or **rule**) feature available in many Macintosh applications provides rule lines ranging from hairlines through several widths. Drawing a line with the 50 percent shade available in most graphics programs produces a dotted line. Some line tools can also produce multiple rules. Because rules are difficult to ink and expensive to typeset, the line tool is very useful.

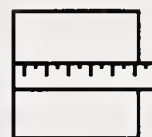


The **triangle** is used to draw a line at a specific angle. The standard triangles used in graphic arts are the 30°-60° and the 45°. Adjustable triangles also exist, but a **circular protractor** used with a straightedge will achieve the same results.

The **angle** feature available on some Macintosh graphics applications al-

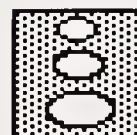


lows the user to draw a line at a specified angle. And the **rotation** feature provides the equivalent to the circular protractor, allowing the user to rotate an object to the desired orientation.



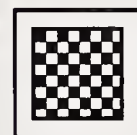
The **ruler** is an essential tool for the designer. The ruler most commonly used by the designer measures in both inches and picas. It is important for desktop publishers to understand the pica system, because it is the basis for typography and page layout.

Most word processing, page make-up, and graphics programs on the Macintosh have **rulers**. In some programs the ruler is adjustable — that is, the zero reference point can be moved. Some programs also allow the ruler to be converted from inches to picas or vice versa. Many rulers also have metric conversion capability.



Circle and ellipse templates come in a variety of degrees and sizes, in both inches and metric measure. Most ellipse templates mix sizes and degrees, but it is possible to purchase an isometric template (approximately 30°), as well as sets of templates with ranges from 10° to 80°.

Circle and ellipse features are available in both bit-mapped and object-oriented graphics programs. Object-oriented programs often provide a diameter or radius feature.



Screen tints to be added to artwork are available as adhesive-backed sheets of printed screens to be cut to shape and adhered to the artwork. Alternatively, the printer can add a screen tint in the printing process.

Paint or shades can be used in conjunction with the Fill feature or the



paint bucket to fill a rectangle or a space of another shape with a particular shade or screen. Once in place in a bit-mapped image, the screen cannot be separated from other elements of the image. But in an object-oriented application, the screen can be removed much as screen tint can be peeled off artwork.



The **loupe** is used for viewing artwork at a particular magnification, usually 8x or 10x. The linen tester is used for the same purposes, but unlike the loupe, it folds flat. Loupes are often used in checking the line quality of artwork or for making small corrections with a pen or brush. Some loupes contain a grid for identifying type sizes.

FatBits is a magnification feature used for editing bit-mapped graphics. The **enlarge**, or **zoom**, feature in some programs is helpful for precisely aligning graphic components. Type size may be identified by selecting the type in question and consulting the Font or FontSize menu.



The **photostat** and the photomechanical transfer (**PMT**) are used to copy original artwork or clip art, reducing or enlarging it in the process, for paste-up. A photostat is made from a negative. A PMT is similar to a Polaroid print — there is no negative.

The **scanned image** and the **Copy** feature of many graphics programs are probably the closest the pc provides to an equivalent to the photostat or PMT. Scanning hardware and software digitize artwork selected by the artist, and the result is a bit-mapped graphics file. The artwork may be enlarged or reduced during the scanning process. The Copy feature provides a way to reproduce artwork created in or scanned into the electronic medium.



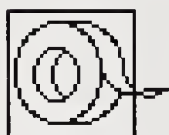
The **scissors** and **X-Acto knife** (or utility knife) are used for shaping and trimming artwork.

The **Cut** feature, used with the lasso or marquee, is the equivalent of the scissors or knife in cutting out an image.



Artwork often needs to be **cropped**, or trimmed, to a specific size. Sometimes the cropped image is reduced or enlarged for impact, or to fit in the space available.

The **Crop** feature of page make-up programs allows the user to do this job easily. It works differently than trimming, in that the unwanted material is not permanently cut. The image can be recropped as required to regain the trimmed material.



There are many methods for pasting up artwork. **Glue** (rubber cement) and wax are the most widely used. Spray adhesive is also popular because it is convenient to use and, like wax, it allows repositioning. Tape, although not generally used for paste-up, is helpful for flapping an overlay or attaching notes to the artwork.

The **Paste** feature of graphics programs provides the electronic equivalent of paste-up, as well as other beneficial functions. Paste works in conjunction with Cut or Copy. The user can paste a visible object or an invisible rectangle (a space-holder) to allocate space for a graphic image in a word processing program, for example. Some page make-up programs (such as PageMaker) use a **Place** feature that bypasses the Clipboard to insert text or graphics into the document.



The **T-square** is used for aligning artwork during paste-up. It is also used along with the "**non-repro**" **blue pencil** for drawing layout lines that are not to show on the final print.

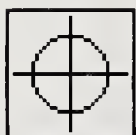
Many Macintosh graphics applications have **guidelines** and a **grid** function. Some guidelines can be repositioned, and most can be displayed on the screen or hidden, at the user's option. Guidelines and grid provide an

easy-to-use, invisible-in-print alignment and layout system.



Rubylith is a red semi-transparent film on a polyester backing sheet. It is used to prepare a window (block) on the final artwork. Rubylith is peeled off the backing sheet, positioned on the artwork, and trimmed to size. The printer's process camera uses Litho film, which "sees" the red Rubylith as black and records it as a clear block of space on the negative. The printer strips a negative of the artwork (often a photo) into this window.

A **Block** feature, the electronic equivalent of Rubylith, is available in some applications (such as ReadySetGo). This feature can also be created in other applications by filling a **rectangle** with black paint. If your pc printer does not produce a solid, dense black, it is best to use Rubylith. Otherwise the quality of the negative, and ultimately the printed product, may suffer.



Registration marks are used to register two or more pieces of artwork. One may be the base art and the other(s) the overlay(s). Registration marks come in a variety of shapes and sizes, but the most common is the circle with the cross bars.

If you want to make files for printing in several colors by creating duplicate files and deleting material from each, it is a good idea to draw registration marks on the original file prior to duplicating. This establishes the mark in the same position on every version of the file. Creating registration marks is easy using the drawing tools in either a bit-mapped or an object-oriented application.

L I F E • C L A S S

J A C K D A V I S

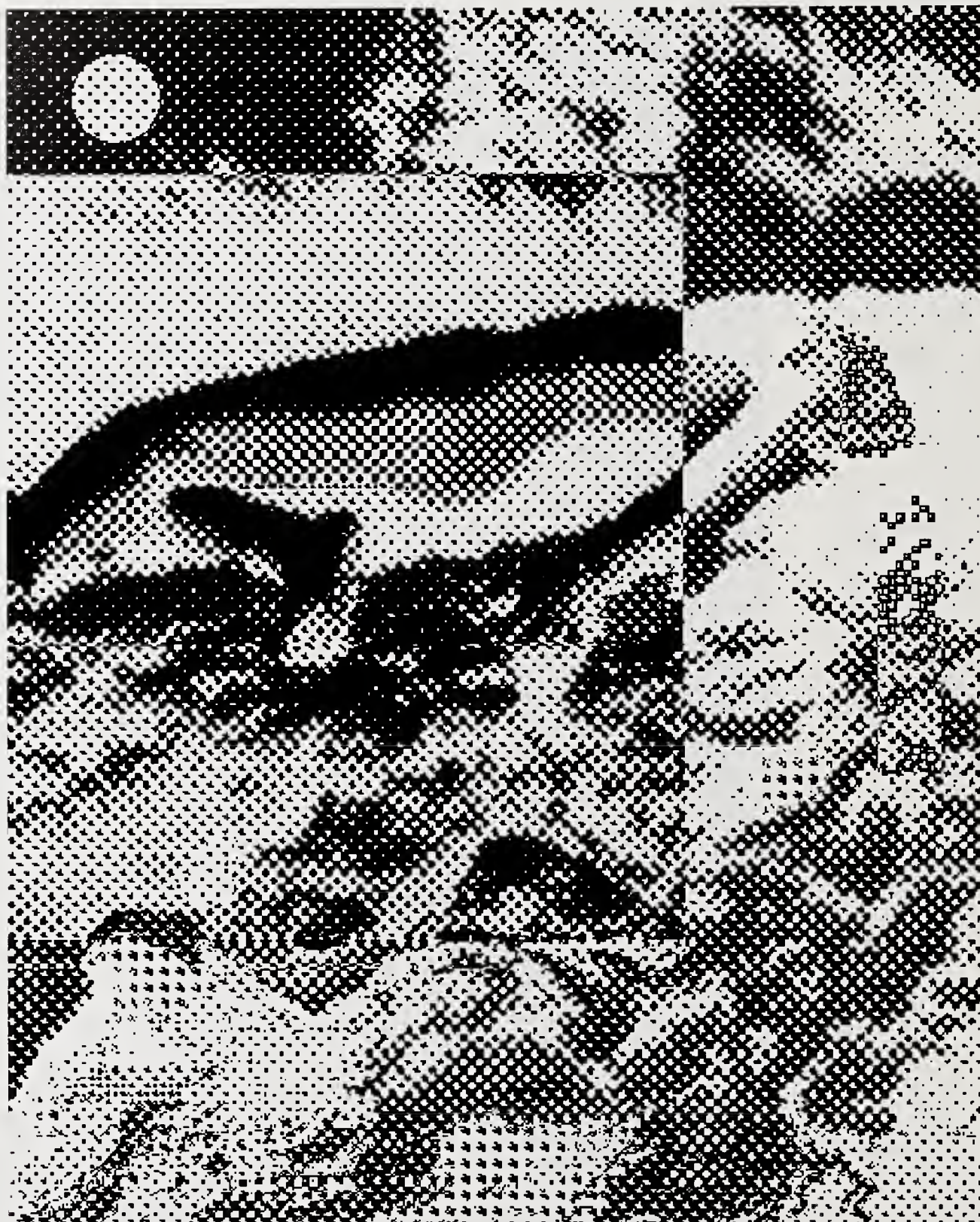


This neon dancer was designed by Jack Davis with Illustrator.



NATHAN WEEDMARK

San Diego Artist Nathan Weedmark used MacVision and MacPaint to create this beachscape of Anita reclining.



NIRA

Los Angeles artist Nira, involved with CAD and pc art forms since arriving from Israel in 1978, created this reclining nude with MacDraw.



NIRA 85

STEPHEN BRADLEY



Stephen Bradley, a student of Paul Rutkowski in Tallahassee, used a Thunder-Scanned photo as the starting point for this troubling family scene.

B E T H
K U R T Z

Scientific illustrator Kathleen Sanderson of San Diego drew this lifelike portrait as three LaserBits objects in SuperPaint. (Image reduced and stripped in).

A poignant digital painting by Florida State University student Beth Kurtz. (Image reduced and stripped in).



KATHLEEN SANDERSON



PAINTING AS SPIRITUAL DISCIPLINE

■ by Jack Davis

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My first exposure to MacCalligraphy was at the Macworld Expo earlier this year in San Francisco. After seeing only a few exciting new graphics programs unveiled on the floor (Adobe Illustrator is definitely tops on my list), I was spellbound by what I saw in a little booth tucked away in the corner.

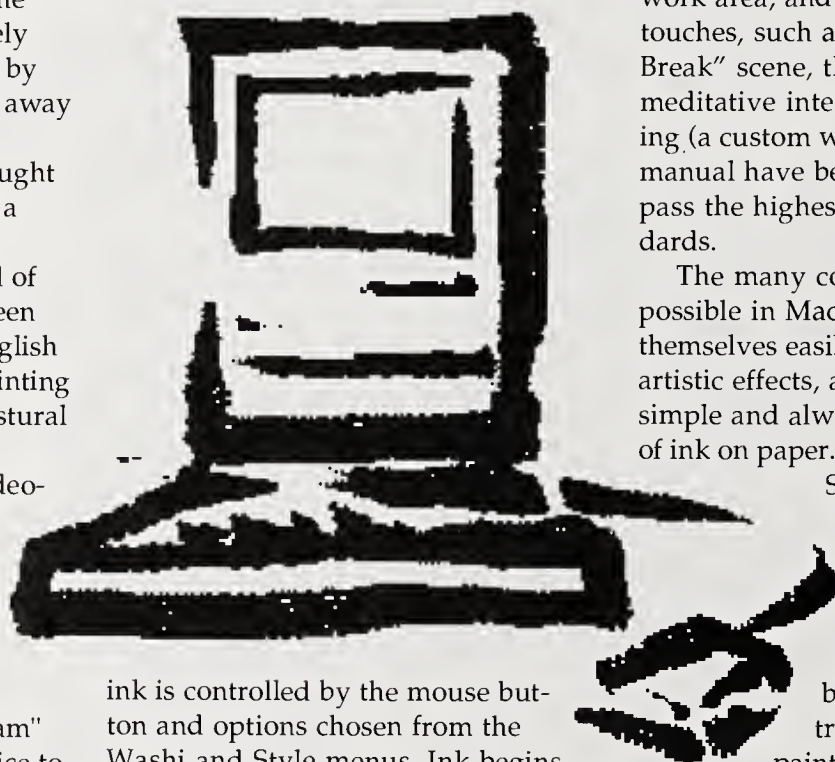
Over someone's shoulder I caught a glimpse of an artist painting on a Macintosh. And it wasn't "full," "super," "laser," or any other kind of computer paint that I had ever seen before. The artist (whose only English seemed to be "Like try?") was painting an unbelievably sensitive and gestural *sumi* ink sketch that I would have sworn had been scanned in or video-digitized had I not been watching him create it from scratch. Japanese art (and culture as a whole) has always awed me, and now I was watching it take form on a Mac.

As I sat down to try the "program" (the word doesn't seem to do justice to this medium), my reaction was a strongly emotional as well as intellectual one. This was truly *personal* computer art.

In oriental ink painting, when the ink brush is first applied to the absorbent rice paper, or "washi," the ink flows from the brush *into* the paper. And when the pressure on the brush is released, a "tail" is formed that varies according to what type of brush is be-

ing used and how the artist lifts it off the paper. The tail will be long if the brush is released while still in motion, or there will just be a wetter spot in one area if the brush movement is stopped before lifting. In any case, ink never ceases to flow until the brush is completely separated from the paper.

In MacCalligraphy, the "flow" of



ink is controlled by the mouse button and options chosen from the Washi and Style menus. Ink begins and will continue to flow and expand (its rate being set in the Washi menu) when the mouse button is pressed, and it stops flowing after some predetermined time delay (set with the Style menu's tail length option) once the button is released. If the mouse is dragged relatively quickly, the line will be thin. Likewise, if it's dragged slowly, the line will be thicker. The feeling of the line is thus variable and directly controlled by the artist's own drawing rhythm. Other options that also affect the paint are the Touch (the various brush types) and the Dry brush and transparent Underlay selections in the Effects menu.

The latest version of MacCalligraphy, 2.0, has moved most of its special options into the menus so that its

work area more closely resembles the traditional *sumi* painting environment. You can even grind or dilute your own shade of ink if you would like that preparatory experience (the nine shades of gray plus black can also be chosen using the keyboard numbers). Other changes include a window zoom box to take advantage of a full-screen work area, and other "environmental" touches, such as a changing "Tea Break" scene, that can be used for meditative intermissions. The packaging (a custom wooden box) and the manual have been improved to surpass the highest of aesthetic standards.

The many combinations of features possible in MacCalligraphy lend themselves easily to a wide variety of artistic effects, all rendered in the very simple and always beautiful medium of ink on paper.

So why did I get so "emotionally involved" with this little program? Because this expanding brush and the philosophy behind it allow the first truly individualistic and painterly expressions ever to come out of a computer. Until

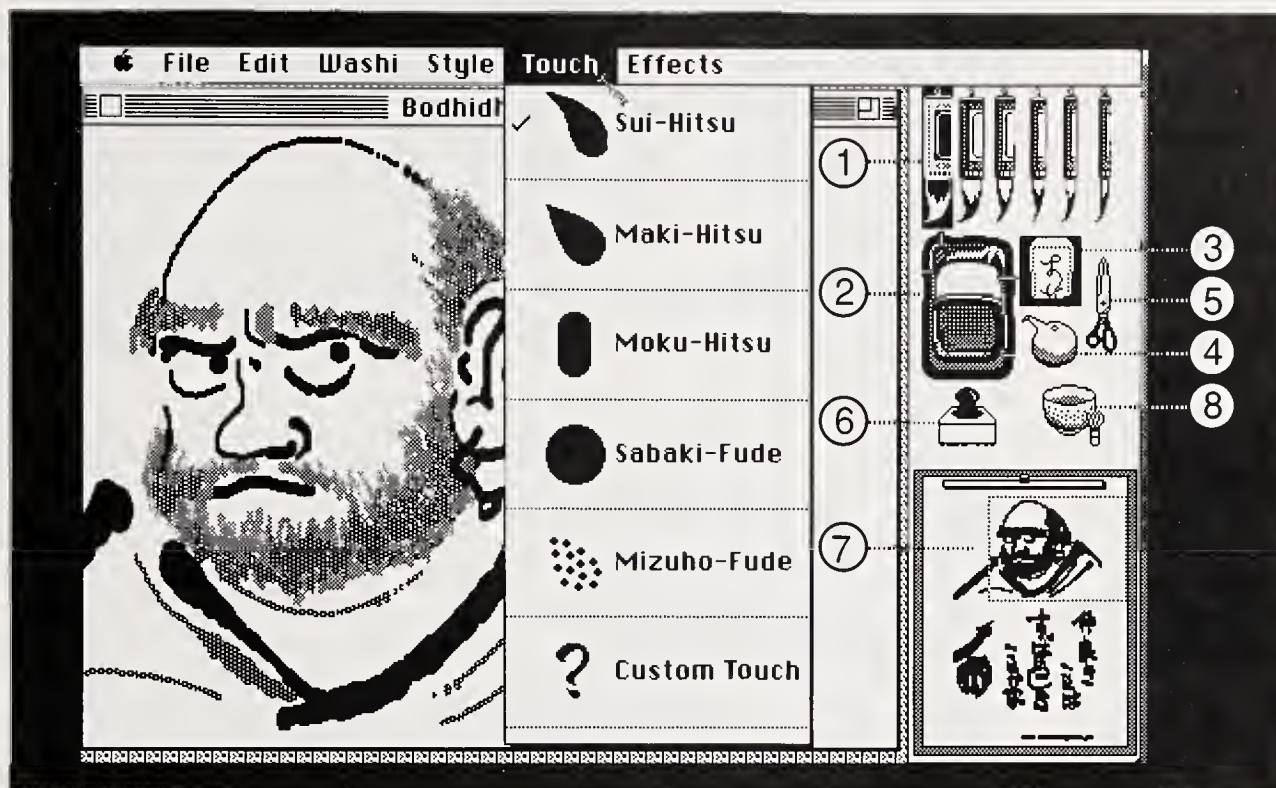
now, most electronic paintbrushes have been little more than variations on round and square computer cursors (the ComicWorks airbrush is a beautiful exception). If you were to paint a line and I were to paint a line, the two would look basically the same. But every stroke in MacCalligraphy (and these are brush strokes, not cursor paths) is as individual as a stroke in someone's handwriting. And thus the name.

The people at Enzan-Hoshigumi have successfully emulated the oriental art of aesthetic communication (both pictorial and verbal) through the bamboo brush. They state their company's goal as "Computer programing as spiritual discipline." In MacCalligraphy they have achieved this goal, and that's what had me all choked up.





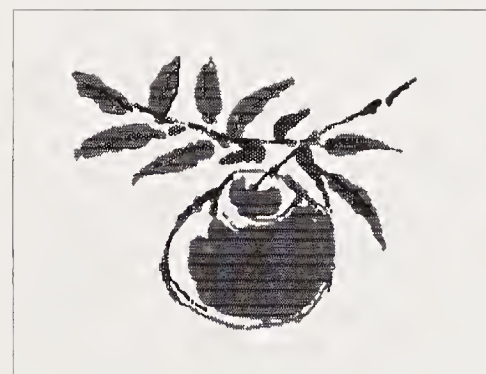
As the mouse button is pressed (a) and held down, the ink expands and "bleeds" into the paper; and when the button is released (b), the ink "flows" for a moment longer, and a quick movement to the left produces the tail.



The MacCalligraphy 2.0 Work screen:

1. Brush size, 2. Ink stone, 3. Ink block, 4. Water dropper, 5. Selection, 6. Seal, 7. Full page view, 8. Tea break

A series of sketches showing the dexterity of line in MacCalligraphy. Though these examples all have a heavy Oriental influence, the expressiveness of the "ink" works equally well for Western images.



BIG BLUE ART

■ by Michael Kelly

Most Mac fans seem to think it's a contradiction in terms to mention graphics and the IBM PC in the same breath. Apple's Macintosh combines its famous graphics-based user interface — the high-resolution screen with the desktop metaphor and the icons — with some fine paint and draw programs and Apple's LaserWriter, to make it a favorite with artists, designers, and desktop publishers. Alas, those of us in the MS-DOS world are adrift in a sea of blank screens populated only by A> and C> prompts waiting for obscure commands, denied the creative rush inspired by the intuitive environment of the Mac. Or so the lament goes.

In truth, there are so many graphics options in the IBM PC world, that it can be quite confusing to the shopper at buying time. Let's explore some of these options and compare the IBM graphics world to that of the Macintosh. There are more similarities than most readers may be aware of, but there are also important differences.

The publishing company I work for has produced a number of books about the Macintosh, but it conducts its own business on IBM PC-compatible equipment. So at the office, it's A> and C> prompts for me. At home it's a different matter. Besides two ARC X-Turbo PCs, we also have a "monster" Mac (2 megabytes of memory). Both the Mac and the PCs are successfully outputting text and graphics to the Apple LaserWriter and exchanging files between the two different operating systems through the excellent TOPS local area network. Moving between these two systems, sometimes more than once in the same evening, allows me to make some specific comparisons.

We run paint, drawing, clip art, and WYSIWYG (What You See Is What You Get) page make-up programs on both systems. When we fire up PC Paint, PC Paintbrush Plus, or Drawing Assistant, our surprised Mac

friends feel right at home. Let's be frank. These IBM PC-compatible programs were all inspired by the Macintosh environment. All of them use a mouse device, and you point and click in the typical Mac fashion. Menus, icons, and functions are comparable to those in Macintosh programs. In addition, a number of drawing and paint programs work from the keyboard. Probably the most powerful of the keyboard, non-mouse drawing programs is Computer Support Corporation's Diagraph. It combines drawing tools and extensive template and clip art libraries to allow the production of a wide variety of business graphics. There are also a large number of graphing programs for the PC that produce an excellent array of graph types.

Sketching or drawing tablets exist for both systems. The Mac has its Koala tablet, for instance, and the IBM has the Summasketch. Both work in the same fashion, accepting a tracing or free-hand drawing, either from a penlike device or from a mouse. The sketch is captured on the screen and can then be manipulated like any other "painted" image. Scanners are also available for both the Mac and the PC, allowing us to scan in a drawing or photo for a little creative modification in a compatible graphics program.

So we have similarities in the types of input devices, graphics programs, and even output devices, including dot matrix and laser printers. Where, then, are the differences? Two differences leap to mind as I move between the different computer systems: **color** and the **kludge factor**.

Until the advent of the Macintosh II, the world of the Macintosh user has remained pretty much a monochromatic one, variegated only by the several shades of gray you can derive from bit-mapped patterns of black on white. PC users, on the other hand, have long had color in their world. All of the PC paint programs mentioned earlier support color monitors. But apart from self-amusement on the

screen, PC color must make its way onto hard copy to have a practical use. And it does — in color plotter and color printer output (on paper or acetate), and 35mm and Polaroid instant prints and slides.

To illustrate her medical lectures my wife Chris uses 35mm slides prepared on one of our XT compatibles. A Polaroid Palette connected to the PC through the serial port offers a range of 72 color choices, available up to 16 at a time. It has a color wheel and its own CRT in a box that can house either a Minolta 35mm camera or a Polaroid film pack holder for Polaroid 669 film. Most of Chris's slides include both text and graphics. She creates each slide on the screen using a paint program, chooses her colors, and then sends the slide, or a series of slides, to the Palette. With the new C-language software update, it doesn't take long for the program to expose the film to each of the primary colors on the color wheel. The film can be the instant slide variety or the type you send out for processing. Chris generally makes her slides in one evening, using instant film and the slide mounting device supplied by Polaroid. The quality of the slides is good, and her audiences generally give them rave reviews. This color slide capability doesn't come cheap — the Palette retails for between \$1700 and \$1900 (upscale systems start at \$5,000). But if presentations are an important part of your professional or business life, hang the expense, right?

As soon as we start to rave about color on the PC, however, we have to mention the kludge factor. Unlike the PC, the Macintosh has so far been a self-contained system. You take a Mac Plus out of its carton, plug in the keyboard, flip the On switch, put a disk in the slot, and you're off and running. Until recently you didn't worry about which printer, disk drive, or monitor you wanted — there simply wasn't more than one logical choice. Most software, and the relatively new hard disks, color monitors, and giant moni-



The illustrations above were winners in the 1986 AT&T Truevision art competition sponsored by Island Graphics and AT&T EPICenter to promote and encourage the use of computer graphics art. *Cold Eyes* (top) by Paul Reiche was produced with the AT&T TARGA 16 board and Island Graphics' TIPS (Truevision Image Processing Software). The work won first place in the digitized image category. *Unremembered Name* (bottom) by Craig Johnson, created with a TARGA 24 board, won first place in the hand-drawn image category. Reprinted with permission of Island Graphics and AT&T EPICenter. (Halftone conversions from color originals.)

tor screens, are crafted to clear software standards set by Apple. You get a well-integrated system of software and hardware, a straightforward, "clean" system. Now that the open Mac, in the form of the Macintosh II and SE, has been announced, the Mac buyer will be faced with a larger choice of hardware from third-party vendors. But nothing like the choices a PC buyer faces. The IBM environment is a mess.

Even if you buy straight-down-the-line IBM brand equipment, you

quickly find out that you haven't bought a turn-key system, especially when it comes to graphics. To assemble a system whose functions and price you'll be happy with, you have to kludge it together. After you've decided whether to buy an IBM or one of the dozens of clones, you have to decide which type of monitor to get, which of the dozens of dot matrix or laser printers, and which graphics standard you want in your graphics add-on board. Say, what? Which graphics standard?

Graphics capability isn't built into the PC environment the way it is in the Macintosh. Instead, it comes from an add-on board that you place into an empty expansion slot inside the computer. And when it comes to graphics, the choice is not simply whether to buy color. IBM introduced the PC with a text-only monochrome standard (Monochrome Display Adapter, or MDA), but Hercules Computer Technology introduced the Hercules Graphics Card, which supported a resolution of 720 by 348 pixels, superior to the original Mac's 512 horizontal by 342 vertical. This quickly became a widely emulated standard that almost all PC graphics programs supported. Next came IBM's Color/Graphics Adapter (CGA) board, and many clones, which offered 16 colors (4 at any one time on the screen) and a resolution of 320 pixels in each of 200 rows. The CGA board also supports a largely ignored black-and-white graphics mode of 640 by 200 pixels. But text is difficult to read with the CGA.

Finally, IBM brought out the Enhanced Graphics Adapter (EGA). With a resolution of 640 by 350 pixels and a 64-color palette (16 colors can be displayed simultaneously). PC-graphics users now can have both color and easy-to-read text. Third-party vendors followed quickly with their own EGA-supported boards and multi-display boards that could support several graphics standards. With each new graphics standard introduction, new monitors were launched, capable of displaying these colors and resolutions. Starting from scratch with a lower-cost PC compatible with 640K of memory such as my ARC X-Turbo, and adding an EGA third-party board and color monitor, you'd have spent about the same as the cost of a Macintosh Plus. But you'd have color.

To further complicate matters, you can choose between composite (analog) and RGB (digital) color monitors. If you can afford it, you can buy beyond the EGA standard, including



kludge (kluj) —*v.* kludged, kludging, kludges —*tr.* to combine ill-fitting parts to make a facsimile of a working whole. *See also*, inventions; Goldberg, Rube.



the Professional Graphics Controller (PGC) from IBM (640 by 480 pixels). AT&T's TARGA 16 board, (512 by 480 pixels) with 32,768 colors lets you capture true color video images and display them on the screen, providing an effective bridge between analog video and digital computers. Such a system as the latter, however, costs about \$10,000, which puts it in the upper regions of the Macintosh II's price range — more appropriate, perhaps, for the fast-paced professional or production shop than for the rest of us.

In building a PC graphics system, you have to do some serious worrying about compatibility between your hardware components and between your hardware and software. Your software must have a display driver that supports the graphics standard your graphics board conforms to, and your monitor must be able to display the resolution and colors of this same board. Compounding the complexity is the fact that interface standards and an integrated graphics environment similar to those existing in the Mac world don't yet exist in the PC world, where lack of a good "fit" between hardware components or hardware and software is quite common. Hence, we end up with a kludged-together system. It works, but only after we've spent considerable time, money, and labor choosing the parts and then configuring them to work together.

Several attempts to introduce a standard graphics interface to the IBM PC world have fizzled. IBM's TopView and DesqView tried to introduce a windows environment and menus, but neither has caught on as a standard. The Graphics Environment Manager (GEM) and Microsoft Win-

dows operating environments directly mimic the Mac, with desktop metaphor, icons, and mouse. Each is supported by a major desktop publishing program: Xerox's Ventura Publisher Edition for GEM and Aldus's PageMaker for Windows. Both environments want to bring the intuitive visual environment to the PC world. Microsoft Windows does bring a Mac-like "feel" to the PC, although it's slow with the current generation of PC microprocessors. With the new 80386 microprocessors coming out in the next generation of IBM personal computers, this will speed up nicely.

IBM's new Personal System/2 line will be faster than corresponding models in the PC line. IBM's new standard input system is a 3-1/2 inch disk drive popularized by the Macintosh. More interesting, they're also making standard a high-resolution graphics capability. Whereas in the past you had to add a graphics card to achieve high-resolution text or graphic images, this is now built into the machine. However, this is not to say that IBM is adopting a Mac-like graphics environment. Instead, this environment still has to be built into software packages by third-party developers.

If the software I'm beginning to get for review is any indication, Microsoft Windows should enjoy considerable software support. Two programs I've added to my library recently are Aldus's PageMaker for the PC (its counterpart is well-known in the Mac world), and Windows "Draw!" from Micrografix. Running PageMaker side-by-side on a Mac and a PC is astonishing — to me, they look and feel identical.

Stepping back to compare the two microcomputer systems leads to several conclusions. It's very clear to me that anything you can do on a Macintosh, graphically speaking, you can do on an IBM PC compatible. In fact, you can go further with color and a greater variety of output devices on a PC. But you pay a price for a PC system — the kludge factor translates into awkward interfaces, ill-fitting components, and software and hardware incompatibility problems. You can kludge a Mac Plus if you want to, but most satisfied owners don't bother.

When it comes to bit-mapped or object-oriented graphics programs, which system do I prefer? The Macintosh. The graphics interface is a tighter fit, and it works more smoothly. It's easier to learn to work the programs. The turn-key aspect of the Mac system is awfully attractive after years of kludging together PC systems. If I were starting from scratch, if graphics programs were the primary ones I wanted to run, and if I didn't need color or slides, I'd buy a Macintosh Plus or maybe a new Macintosh SE. In the business world I might hesitate only if I were a very heavy user of charting programs. There seems to be wide variety of excellent programs for the PC.

Interesting, isn't it, how the two kinds of systems seem to grow more similar as they develop? As the IBM PC and its clones cultivate a (pardon the expression) cute little Mac-like personality, the Macintosh acquires big-time slots — but maybe not kludge.

Michael Kelly is vice president of Slawson Communications, a book publishing company headquartered in San Diego, California. With more than 20 years' experience in type, graphic arts, and publishing, he is the author of the forthcoming book, *Business Applications of Desktop Publishing*.

Editor's Note: *Verbum* would welcome art submissions from those working with IBM PC's or compatibles, and particularly with some of the less expensive graphics systems. — L.D.

CRICKETDRAW

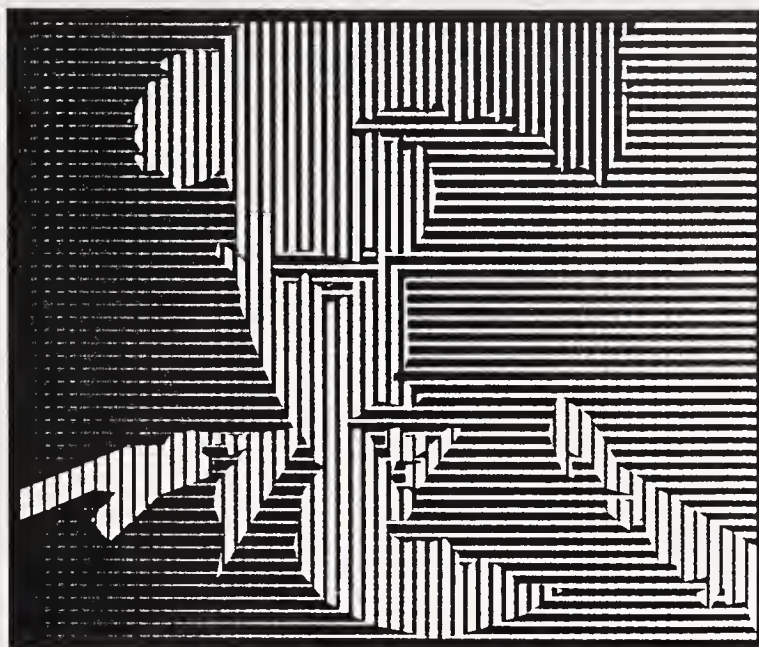
■ John Odam

With its sophisticated array of tools, CricketDraw is one of an emerging family of Macintosh applications that take advantage of the PostScript-driven printers. What makes CricketDraw unique so far are the fountains — linear, logarithmic, and radial. One touch and the area fills in with a ramp of grays. The choice of a brush for this icon struck me as odd. It took me a while to realize that the direction the brush icon is dragged determines the direction of the ramp. (I had been needlessly filling objects with ramps and rotating them to get the right direction of tonal gradation!) To laser print radial fountains can take up to 20 minutes, but the stunning 3D effects that can be obtained are well worth the wait. I wish it were possible to get the highlight somewhere other than dead center, though. It would also be nice to have an inverse circle mask (an opaque white rectangle with a circular clear hole in it.)

Working with CricketDraw, as with other object-oriented programs, is rather like paper sculpture or air-brushing: one works in layers from the bottom to the top, with foreground objects and details added last. The bring-to-front and send-to-back functions allow objects to be moved while remaining on a lower level.

CricketDraw has a lot of hidden menus that manual-skimmers like me tend to discover only by accident or friendly advice. One very interesting function gives parallel-line screens, coarse dot patterns, and other effects that are not so apparent on the screen, but dramatic in the print-out.

CricketDraw prints through PageMaker 2.0 and RSG 3 without difficulty. (Be sure to save the Cricket file *in actual size* as a PICT!) Although CricketDraw incorporates some good typesetting functions of its own — particularly the special effects that bend and shadow type, as a page-makeup program it is unwieldy and inadequate. However, this in no way detracts from its merit as a graphics tool.

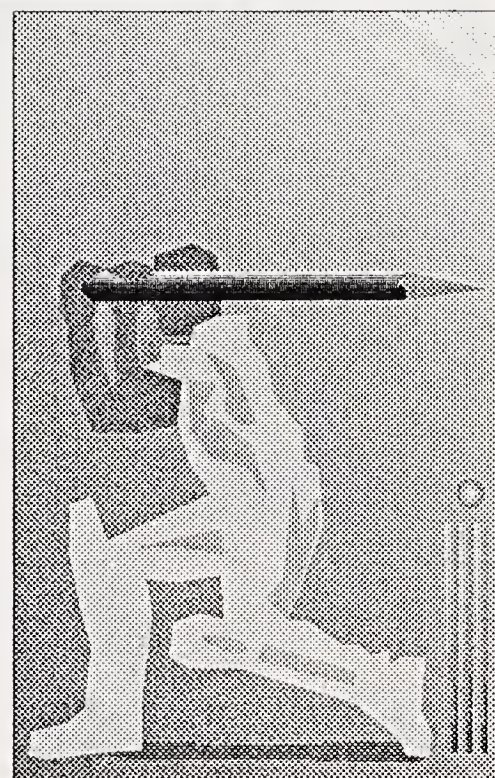


1

1. The base for this illustration was traced from a Duran Duran rock video frame. The fountains were converted to parallel line screens with the transfer mode menu.
2. Rock video again provided the starting point for this portrait. The lettering demonstrates the shadow effect. All the polygons are filled with flat tints except the hair highlights and the legs, which use linear fountains.

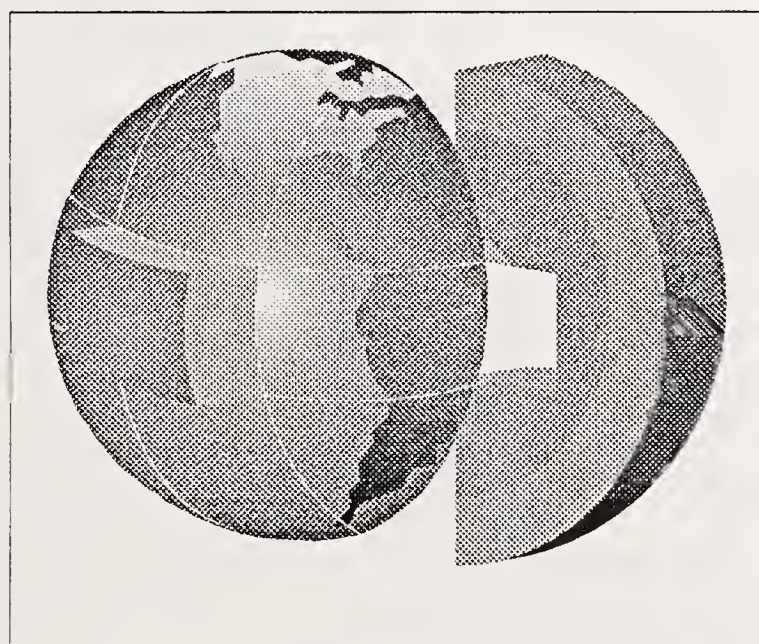


2



3

3. The pencil wielded (to no avail) by the cricketer used the transfer mode to increase dot density. The ball demonstrates the radial fill effect. The background shows the diagonal ramp obtained by dragging the brush icon obliquely.
4. Be prepared to wait up to 20 minutes for a print when using radial fills like those in this illustration. The white lines are Bezier curves.



4



MALCOLM THAIN



DANCING LADIES 5/10

Dancing Ladies
was created in FullPaint as several full-page documents and then converted
to a MacDraw document. It was then reduced and printed at "50%" on the
Imagewriter. The print is reproduced here at 80 percent.



Self Portrait 5 was created with CricketDraw and printed on the Laser-Writer.



Moonies was drawn with CricketDraw and printed on the Laser-Writer.



Windy was created with CricketDraw

With these studies of the human form in a range of common (and not-so-common) postures, accomplished Australian artist Malcolm Thain further explores the Macintosh, which he perceives as the gateway to the use of the computer graphics medium as a fine art form.



Sleeping Lady was created in Super-Paint and printed at "50%" on the Laser-Writer.



■ edited by J. C. Brown

In this column J. C. Brown provides announcements about new and forthcoming products that Verbum feels are of significance to desktop artists.

Desktop Publishing

Springboard Publisher (for the Apple II)

Springboard Publisher provides complete text entry and editing tools as well as precision control of graphics even at the pixel level. Pages can be preformatted or free-form. Graphics and text can be placed and rearranged at any time during the document make-up process. Suggested retail price is \$139.95. Springboard Software, Inc., 7808 Creek Ridge Circle, Minneapolis, MN, 55435. (612) 944-3915.

PageMaker for the PC (for the IBM PC and compatibles)

PageMaker runs under Microsoft Windows. Its features include dictionary-based hyphenation, kerning, and the ability to work on facing pages simultaneously as two-page spreads. Documents can be up to 128 pages long. Users can directly import preformatted text files from a number of programs, including Microsoft Word, WordPerfect, and MultiMate. Bit-mapped graphics can be imported from a number of IBM programs, including Windows Paint, PC Paint, and PC Paintbrush. PageMaker 2.0 for the Mac can import PageMaker files from the PC. Suggested retail price is \$695. Aldus Corporation, 411 First Ave. South, Suite 200, Seattle, WA 98104. (206) 622-5500.

PageMaker 2.0 (for the Macintosh)

The new Macintosh version supports the Mac II and the Mac SE as well as the earlier Macs. It allows PC PageMaker files to be imported to the Macintosh. Aldus has also worked extensively

with Microsoft to offer a new export capability between PageMaker 2.0 and Word 3.0. Text files can be created or modified in version 2.0 as Word 3.0 word processing files, thus giving an option of updating original text files or saving PageMaker files in a word processing format. Suggested retail price is \$495. Aldus Corporation, 411 First Ave. South, Suite 200, Seattle, WA 98104. (206) 622-5500.

Lightspeed Color Page Layout System (for the Macintosh II)

With a 300 dpi resolution color digitizer, this system uses the familiar conventions of the Macintosh interface combined with the new color capabilities of the Mac II. The turn-key system will include a Macintosh II, 19-inch color monitor, color input scanner, and software. Output options for proofing and presentation include film recorders and color thermal transfer printers. Lightspeed, 47 Farnsworth Street, Boston, MA 02210. For complete details on pricing and delivery, contact Inga Wennik, Director of Marketing for Lightspeed at (617) 338-2173.

First Impression (for the IBM PC)

This new program from Megahaus takes a true WYSIWYG approach. Text flows in columns and around pictures, from page to page. A style sheet controls the layout, the typeface, and the rest of the document's appearance. The maximum size of a document is limited only by disk space. The package allows mixing of typefaces and point sizes on the same line and provides kerning, hyphenation, widow and orphan control, and vertical justification of columns. Suggested retail price is \$695. Megahaus Corporation, 5703 Oberlin Drive, San Diego, CA 92121. (619) 450-1230.

Quark XPress (for the Mac and Mac II)

This new color desktop publishing system for the Macintosh II computer features a spelling checker, automatic hyphenation, automatic kerning, and automatic run-arounds of either simple or complex shapes. The program instantly "repours" text when the user changes the layout. Suggested retail price is \$695. Quark, Inc., 2525 W. Evans, Suite 220, Denver, CO 80219. (303) 934-2211.

Scoop (for the Mac)

Scoop is a complete desktop publishing program including a graphics package with the capabilities of Superpaint and MacDraw and a complete WYSIWYG text editor. Special features include wrapping text around irregularly shaped graphics, filling irregularly shaped objects with text, both automatic and manual hyphenation, automatic slanting of margins, fractional font sizes, automatic and manual fractional kerning, built-in MacLightning spell checker (version 3.0), compatibility with a host of image scanners, a file size of up to 100 pages, and complete compatibility with PostScript output devices. Suggested retail price is \$495. Target Software, Inc., 14206 S.W. 136 St., Miami, FL 33186. (800) 622-5483.

Color Retrofit

SuperChroma (for the Mac)

SuperChroma is a complete color system for the MacPlus, enhanced Mac, or 512K Mac. The Video Display Controller connects to the Mac's modem port and requires no internal modifications. The system contains a 68000 processor, a display coprocessor, and the Sony color monitor, which displays 640 x 480 pixels. Suggested retail price is \$2995. Computer Friends, Inc., 14250 N.W. Science Park Dr., Portland, OR 97229. (800) 547-3303.

T O D A Y T O M O R R O W



New Laser Printer

Agfa-Gevaert and Adobe have jointly unveiled a new 400 dpi PostScript printer, P400PS, using LED array electro-photographic marking technology. The printer uses a 68020 processor and can print up to 18 changing pages per minute. The printer has a 20 MB Winchester disk, 1 MB font cache, and 2 MB bit-map memory. While one page is being printed, the next page is being prepared. Contact Liz Bond, Adobe Systems Inc., (800) 29-ADOBE for complete details and price or Compu-graphics at (617) 658-5600 or (800) 822-5524.

Scanning Digitizers

LoDOWN Image Scanner (for the Macintosh)

This scanner offers true half toning. Using the SCSI bus, the scanner digitizes graphics, photographs, and drawings, providing a full-page scan in just 12 seconds at 300 dpi resolution with 32 shades of gray. Suggested retail price is \$1785. LoDOWN, 10 Victor Square, Suite 600, Scotts Valley, CA 95066. (408) 438-7400.

EIT Personal Scanner PS 2000 (for the IBM PC)

This automatic graphic digitizer and optical scanner for IBM PC/XT/AT or compatibles uses a rotating mirror to reflect the image from paper into a sensor. The mirror is the only moving part of the system. Pieces up to 8.5 x 14 inches can be scanned in both OCR and graphics modes. Suggested list price is \$2495. Electronic Information Technology, Inc., 25 Just Rd., Fairfield, NJ 07006. (201) 227-1447.

MacScan (for the Mac)

This new interface for the Princeton Graphics LS-300 tabletop optical scanner features SCSI interface and scans a full 8.5 x 11 inch page. The program supports the file formats of major desktop publishing programs, including PageMaker, ReadySetGo, Ragtime, and JustText. The scanner can also be made IBM compatible. Suggested retail price is \$1547. New Image Technology, Inc., 10300 Greenbelt Road, Seabrook, Maryland 20706. (301) 464-3100.

Slides & Presentations

ImageMaker Slide Generator (for the Mac and the IBM PC)

ImageMaker is a system for producing high-resolution, photograph-quality 35mm slides from a variety of Mac programs including MacDraw, MacWrite, More, and Excel. ImageMaker creates color slides even without a color monitor. Resolution, equivalent to 4000 lines, is not dependent on the quality of the CRT monitor and is limited only by the resolution of the film being used. Suggested retail price is \$4995. Presentation Technologies, Inc., 743 N. Pastoria Ave., Sunnyvale, CA 94086. (408) 749-1959.

PowerPoint (for the Mac)

PowerPoint allows the user to import business graphics and text from virtually any Mac graphics or text program. Slides produced in PowerPoint can be used as illustrations in most desktop publishing programs. Suggested retail price is \$395. Forethought, Inc., 250 Sobrante Way, Sunnyvale, CA 94086. (800) 622-9273.

Books and Publications

The Macintosh Bible, written and compiled by Dale Coleman and Arthur Naiman, includes thousands of basic and advanced tips, tricks, and shortcuts for the Mac. The information is logically organized and fully indexed. The publishers include two free updates, substantial booklets offering additional hints and shortcuts, in the price of the book. 418 pages. Available at \$21.00 from Goldstein & Blair, Box 7635, Berkeley, CA 94707.

Whale Song, by MacKinnon Simpson and Robert B. Goodman, is the first coffee table book created with the Macintosh and associated desktop publishing tools. It was entirely designed, typeset, assembled, proofed, and readied for the printer on the Macintosh Plus computer and LaserWriter printer. The authors have put together a remarkable pictorial history of whaling and Hawaii, and in so doing they have set a standard for desktop publishing on the Macintosh. In content and design the book is a top-notch production. Available at \$19.95 from Beyond Words Publishing Company, 112 Meleana Place, Honolulu, Hawaii 96917.

Clip Art

DrawArt Vol. 2 (for the Mac)

Volume 2 includes over 300 professional MacDraw (object-oriented) clip art images drawn by Macintosh artists. Categories include Business, People, Money, Food, Sports, Transportation, Home, and Holidays. Because these images are created as MacDraw objects rather than MacPaint bit maps, they will print sharply with clear detail on a laser printer. The user can easily customize image sizes and shades with the click of the mouse, without distortion. Suggested retail price is \$79.95. Desktop Graphics, 400 Country Drive, Suite H, Dover, Delaware 19901. (302) 736-9098.

Desk Top Art (for the Mac and the IBM PC)

Borders & Mortices 1 and Business 1 are the latest additions to Dynamic Graphics DeskTop Art collection for the Macintosh. There are now a total of seven collections for the Mac. The other five are Graphics & Symbols 1, Sports 1, Education 1, Four Seasons 1, and Artfolio 1. Also, Graphics & Symbols 1 has been released for the IBM PC and compatibles. Each collection includes two disks of 200-300 graphic images, a how-to guide, a pictorial index, and a heavy-duty storage case. Suggested retail price for each two-disk

collection is \$74.95. Dynamic Graphics, Inc., 6000 N. Forest Park Drive, P.O. Box 1901, Peoria, IL 61656-1901. (309) 688-8800.

Color Comps and Signage

Kroy Kolor Fuser (for the Mac and IBM PC/XT/AT)

Kolor Fuser is a heat-transfer fuser system that adds vivid color to any laser-printed or photocopied material. There are 60 different Kroy Kolors available including a number of colors that simulate foil stamping. Great for layout comps, slides, vu-graphs and one-of-a-kind report covers. Suggested retail price for the Fuser is \$995; individual color sheet material available from 44 to 58 cents per sheet. Kroy Sign Systems, 7570 E. Redfield Rd., Scottsdale, AZ 85260. (800) 521-4997.

Drawing Programs

Adobe Illustrator (for the Mac)

Based on PostScript, Illustrator uses precise curves and lines to describe drawings. See "On the Wings of PostScript" in this issue.

Aegis Draw Plus (for the Amiga)

A CAD Package for the Amiga, Draw Plus allows the user to work on up to six independent drawings of 256 layers each with

full 16-color capability. Files can be transferred to other graphics programs via the IFF file format. Suggested retail price is \$259.95. Aegis Development, Inc., 2115 Pico Blvd., Santa Monica, CA 90405. (213) 392-9972.

Aegis Animator (for the Amiga)

This animation program requires no programming or artistic expertise on the part of the user. Objects can be drawn, moved around the screen, and then played back instantly with a professional look. See "Amiga Video" in this issue for more information. Suggested retail price is \$139.95. Aegis Development, Inc., 2115 Pico Blvd., Santa Monica, CA 90405. (213) 392-9972.

Paintworks Plus (for the Apple IIGS)

The user can produce multicolored graphics with full access to all 4,096 separate colors offered by the IIGS. Text can also be produced on screen in any palette color, and up to 128 customized color palettes may be saved for future reference. Suggested retail price is \$79.95. Activision, 2350 Bayshore Parkway, Mountain View, CA 94043. (415) 960-0410.

Design Dimensions and Solid Dimensions (for the Mac SE and the Mac II)

This new color CAD software for the Mac SE and Mac II offers features typically found on minis and mainframes. Eight sequences of 3-D rotations are provided for animation. Suggested retail price of Design Dimensions is \$750 for the monochrome version and \$1395 for the color version. Suggested retail price of the combined color system is \$2495. A monochrome demo program is available for \$25, color for \$39. Visual Information, 16309 Doubleglove, La Puente, CA 91744. (818) 918-8834.

Electronic Arts DeluxePaint II (for the Apple IIGS)

The program offers custom-mixed color palettes; more drawing tools than MacPaint; color cycling; automatic symmetry; magnification with zoom; picture manipulation effects such as resize, flip, stretch, bend; and texture effects such as blend and shade. Other features include the ability to turn 2-D into 3-D with a single click. Suggested retail price is \$99.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. (415) 571-7171.

LaserPaint (for the Mac 512E and Mac Plus)

This new integrated graphics program intended for desktop publishers and graphic designers provides paint, draw, text, and layout modules. The draw module offers full-resolution line drawing, filling of shapes with patterns or screens, circles, squares, curves, arcs, spirals, custom dashed lines, and, for a real first, positive and negative masking. The Paint module provides full editing of imported bit maps at 600 dpi and airbrushing at 600 dpi. Drawn objects can be used as masks or shields. The text module allows text to be justified within or around any object or arranged on any defined path. Full kerning and positive or negative leading are provided, with font sizes up to 511 points. In the Layout module large artwork may be printed across page boundaries. A multi-page working surface allows manipulation of up to eight 8.5 x 11-inch pages at once. Printer's registration marks are provided automatically on printouts. Files can be printed on the LaserWriter, Linotronic, or any other PostScript device. Suggested retail price is \$495. LaserWare, Inc., P.O. Box 668, San Rafael, CA 94915. (800) 367-6898; in California (415) 453-9500.

MacCalligraphy (for the Mac)

A paint program simulating the medium of ink and brush. See "Painting as a Spiritual Discipline" in this issue. Suggested retail price is \$149.95. Qualitas Trading Co., 323 Monte Vista Ave., Suite 307, Oakland, CA 94611. (415) 547-1520.

Large-Screen Monitors

Laserview (for the Mac SE, Mac II, and IBM PC/XT/AT)

This large-screen display provides resolution of 1664 by 1200 lines. The system consists of a high-resolution adapter board and a choice of 15-inch or 19-inch monitors. Both screens are landscape mounted and provide flickerless display. Sigma Designs, Inc., 46501 Landing Parkway, Fremont, CA 94538. (415) 770-0100.

The Big Picture (for all Macs)

Standard Mac software runs without modification on this 17-inch display with screen resolution of 1024 x 808 pixels. The landscape format displays nearly two complete 8 x 10-inch pages. Suggested retail price is \$1995. E-Machines, Inc., 7945 S.W. Mohawk Street, Tualatin, Oregon 97062. (503) 692-6656.

MegaScreen (for the Mac SE)

MegaScreen SE and MegaScreen SE*M are two new 19.5 inch monitors with 1024 x 900 line resolution for the Mac SE. Both products are base-priced at \$1995. MegaScreen SE*M provides expansion capabilities with detachable daughterboards. MegaScreen SE provides an optional 12-Mhz 68881 Math Co-Processor. Suggested retail for both products is \$1995. Micrographic Images Corp., 20954 Osborne Street, Canoga Park, CA 91304. (818) 407-0571.

Radius Performance Accelerator and Radius Full Page Display (for the Mac SE and the Mac Plus)

The Full Page Display (FPD) is a 15-inch high-resolution black-and-white monitor with full 81/2 x 11-inch display. The Accelerator is a 68020 running at 16 Mhz. Suggested retail price of the Accelerator is \$995, and the FPD is \$1995. Radius, Inc., 404 E. Plumeria Drive, San Jose, CA 95134. (408) 434-1010.

SuperView (for the Mac SE)

SuperMac's new offering is a 19-inch ultra high-resolution (1365 x 1024 lines) black and white monitor that is noninterlaced for flicker-free viewing. The suggested retail price is \$1495 for the monitor and \$495 for the interface board. For additional information contact either Thomas P. Rielly or Gary Eisenstein at SuperMac Technology, 950 N. Rengstorff, Mountain View, CA 94043. (415) 369-3070.

Spectrum and Grafix (for the Mac II)

These two new ultra high-resolution graphics controller boards both work with SuperMac's new 15- and 19-inch high-resolution monitors, as well as with any standard analog or TTL monitor. Spectrum is available both fully configured for color or as a basic black-and-white version that is field-expandable to color. The color Spectrum can be minimally configured for up to 256 colors from a palette of 16.8 million colors. Grafix is a low-cost, black-and-white only board. Grafix will drive any monochrome monitor and supports several interconnected monitors simultaneously, allowing icons and windows to be dragged between monitors and even to span two monitors at once. Suggested retail prices are \$495 for the Grafix board, \$1495 for the Spectrum interface board, and \$2995 for the Spectrum 19-inch color monitor. For additional information, see contacts in previous paragraph.



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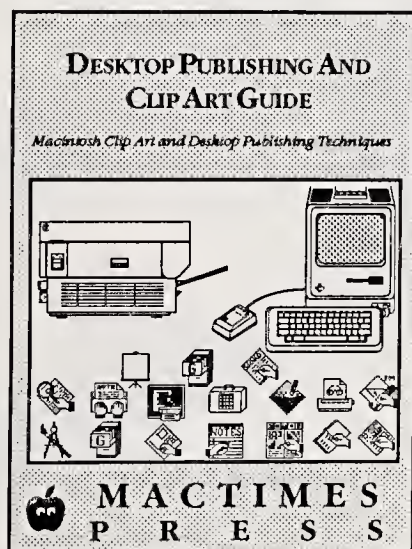
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MacTimes Desktop Publishing & Clip Art Guide

THE BOOK FOR DESKTOP PUBLISHING & CLIP ART TECHNIQUES!



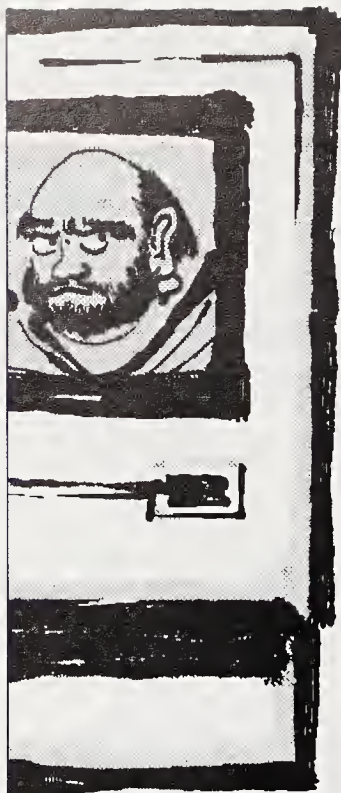
The place for desktop publishing information using scanners, clip-art, word processing, graphics generation and layout programs. Specific information is provided on Adobe Illustrator, Aldus PageMaker 2.0, Quark XPress, Silicon Beach's SuperPaint and Target Software's Scoop and more!

Additionally, a full pictorial and written index is included on all Macintosh clip-art packages which are commercially available.

In total, over 200 pages of useful information pertaining to desktop publishing!

To order your copy, send \$24.95 + \$1.50 Postage to MacTimes, Post Office Box 40, Franklin Square, New York 11010-0040. Publication date: May 15, 1987.





The Mac's First Real Paint Software?



Paint. You know, the medium that in the *real world* interacts with the paper, leaves behind brush marks, and can artistically give you results as personal and expressive as your own signature?

Introducing **MacCalligraphy 2.0**, a totally new type of software that simulates the act of painting or writing on absorbent rice paper. Watch your creation "flow" onto the work screen, choosing from 6 brushes, 5

brush touches, 10 shades of ink, 4 speeds of ink flow, and 4 lengths of "tails" that follow each stroke. And MacCalligraphy also offers features like a Custom Touch Editor that creates brush effects never before possible.

For more information about MacCalligraphy and other Enzan-Hoshigumi products such as **Japanese Clip Art**, call us toll-free at **1-800-426-4280**, or order MacCalligraphy today for only \$129. (Reg. 149.95) Visa/MC accepted.

MacCalligraphy is a trademark of Enzan-Hoshigumi Co., Ltd., Japan

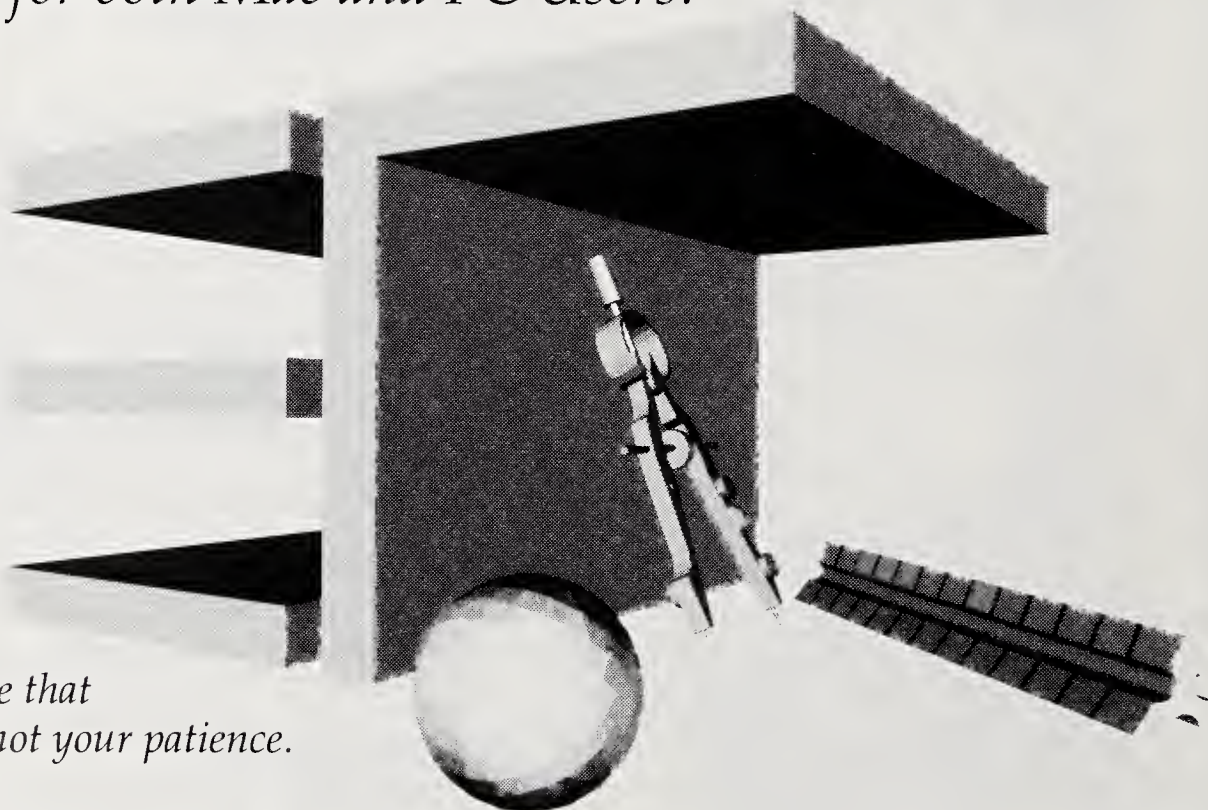
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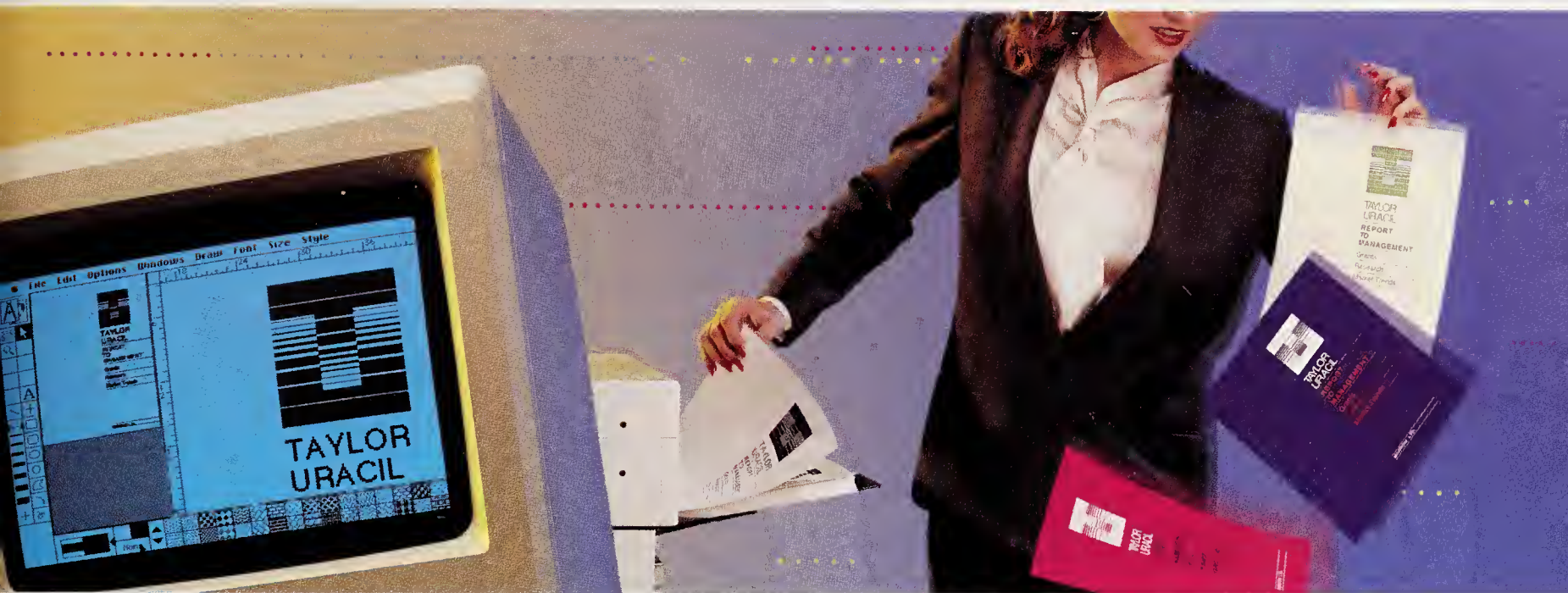


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The Power of Color. Until now desktop publishers could only dream of it.

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Presentation graphics like these are created on a laser printer, then enhanced for visual impact with KroyKolor.

To bring your idea to life, add KroyKolor™ to the message. There are 60 vivid colors and shimmering metallic foils to match the mood and add impact to your business communications.

The matte and gloss colors range from a cool blue, to a blazing, fire-engine red. Especially exciting are the 14 metallic

foils that perfectly simulate foil stamping on your logos, invitations, letterhead, presentation folders, newsletter, artwork and mock-ups. The dazzling metallics range from polished gold and silver to burnished aluminum and copper.

Signs and display graphics of all types can be created on a printer or copier, enhanced with KroyKolor, then laminated with clear plastic or mounted into a Kroy sign frame.



Applying KroyKolor is an easy (and amazing) process.

After your original has been printed on a laser printer or photocopier, you insert it into a sheet of KroyKolor transfer film, feed it through the processor, peel away the transfer film and you have vibrant color in seconds.

The real fun begins when you create multi-color business graphics (such as a pie chart with each slice a different color). To do this, cut pieces from various colors of transfer film and place the pieces onto the areas of the graphic you wish to highlight. That's how the multi-colored examples shown in this ad were produced. It's possible to produce multi-colored presentation graphics in a few minutes which would have taken

several days (and several hundred dollars) to produce at a print shop.

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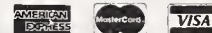
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IRON MAN

THE COMPUTER GRAPHIC NOVEL

BY MIKE SAENZ



The Desktop Color Explosion

■ by Mike Saenz

Tony Stark, in his Iron Man persona of Marvel Comics fame, stands amidst the rubble of a building during a short police action in the information technology wars of the future. Mike Saenz, originator of *Shatter*, the first Macintosh-created comic book, used Kaleidoscope to generate this cover for his forthcoming graphic novel, *Iron Man*. The illustration was printed on a Linotronic 100.

LINO SEPS

Does your dream of seeing your creations on a color monitor turn nightmarish as you consider the gap between screen and printed page? The power-packed color illustration at the left is the product of a technology that gives the desktop artist full control of color composite video separation.

Kaleidoscope, a two-part package under development by Pixel-Craft, represents the kind of technology we'll be seeing more of over the coming months. Kaleidoscope's candidate for the "ultimate graphics package" is Tint Maker, a sort of streamlined color MacDraw you can use to create anything from duotones to four-color process illustrations. Heaven, a PostScript-based color composite video separator, replicates the color separation functions of a high-end digital color laser scanner and represents an advance in technology destined to radically change the way desktop publishers experience the color separation process. Using a color monitor for display of color and PostScript's screen generation capability, Heaven produces screened and separated plates in the four process colors (black, yellow, magenta, and cyan) from any color raster image

created or imported into any of the color paint programs forthcoming for the Mac II.

Kaleidoscope output is produced using a PostScript-based laser raster imaging device such as the Linotronic and a proofing system that allows you to see the colors in print. Printed on a Linotronic 100 at 1270 dpi — like the sample on the opposite page — Kaleidoscope output (130 line-per-inch screen) is near the standard for magazine quality reproduction. At 2540 dpi on a Linotronic 300, Kaleidoscope produces a 260 line-per-inch half-tone screen ruling that pushes the limits of professional color printing technology.

Developed on a PC clone-based simulation of the Macintosh II, Kaleidoscope is now undergoing further improvement, testing, and market development. It should be generally available in late '87 or early '88.

Saenz and Kaleidoscope are at the center of the desktop publishing color explosion. Watch future issues of *Verbum* for the unfolding story of Kaleidoscope and other desktop color separation systems. For more information about Kaleidoscope, contact Pixel-Craft, Inc., 26 Woods End North, Dix Hills, NY 11746, (516) 549-1662.

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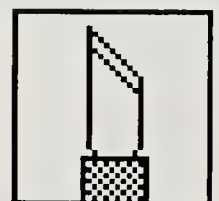
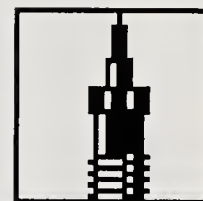
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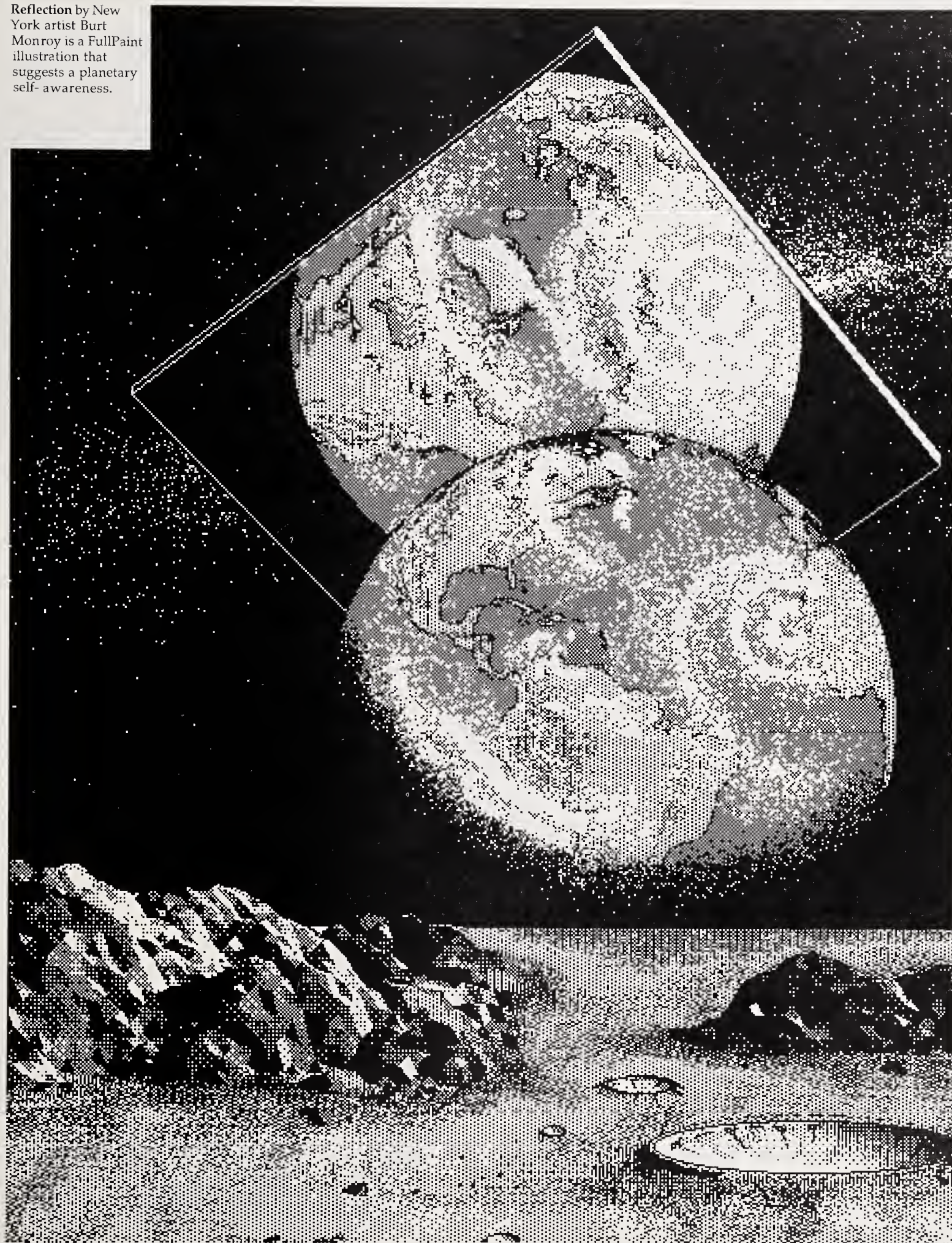
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A D D E N D U M

Reflection by New York artist Burt Monroy is a FullPaint illustration that suggests a planetary self-awareness.



COLUMNS

The Artist's Toolbox — Mike Singleton analyzes and compares leading object-oriented graphics programs.

First Contact — Art director John Odam experiences Adobe Illustrator.

Painting by Numbers — Tony Smith's PostScript column returns with a 3-D Case Study.

Desktop Techniques — John Baxter shares envelope templates and a few other tricks and fine points with us.

New Frontier Products — Noteworthy announcements in the world of digital art-making.

FEATURES

The Realist Breakthrough - Letraset's new gray scale graphics program is reviewed, with original illustrations by Jack Davis.

New Hi-Res Scanners. Video and flatbed scanning options are reviewed with creative experimentation by the *Verbum* staff and technical expert Charles Kerr.

Creative Wave Forms. What do Herbie Hancock, Todd Rundgren and Michael Stearns have in common? An intriguing look at the music counterpart to personal computer art by Neal Fox.

Amiga Video continues: a commercial video production company achieves surprising results using the Amiga with advanced new software.

Color Output Options. With the new Mac II and increasing interest in color output, new and varied alternatives abound.

FEATURED ARTISTS

April Greiman meets *Verbum*. L.A.'s fountain-head of new wave graphic design puts her Macintosh prowess to work, providing four pages of original art.

Dominique de Bardonneche-Berglund. One of Europe's most highly regarded artists proves that bit-mapped art is *not* passé. Extraordinary original illustrations.

In Verbum

1.3

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LETTERS

Let us know what you think about *Verbum*: wax creative (include graphics if you like), get critical, tell us what you want and what you think about this new frontier. We'll begin our letters section with issue 1.3. Send your message to VERBUM LETTERS, P.O. Box 15439, San Diego, CA 92115.

THE NEO VERBUM CATALOG

Last issue, we began the "Verbum Catalog," a mail-order collection of unique products, reference publications, and digital fine art prints. We are in the process of expanding the Catalog and will offer it as a separate publication as well as a bound-in section beginning with issue 1.4.

For your copy of the new *Verbum Catalog*, send your name and address to: VERBUM CATALOG, P.O. Box 15439, San Diego, CA 92115. Allow six weeks for delivery.

ART SUBMISSIONS

We are always interested in seeing innovative, high-quality pc art for possible publication in the "Verbum Gallery." Send your creative gems, along with a 100-word explanation of

the process (including hardware and software used) and a 25-word biography, on disk and on paper (Macintosh format preferred, MacWrite for text files). If the work involves combined media, photostats or photos are welcomed. Please include a self-addressed, stamped envelope for return of the materials. Send to: VERBUM GALLERY, P.O. Box 15439, San Diego, CA 92115.

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Writers on subjects of interest to digital artists and desktop publishers are encouraged to send for a copy of *Verbum's* editorial guidelines. Send a self-addressed, stamped envelope to: VERBUM GUIDELINES, P.O. Box 15439, San Diego, CA 92115.

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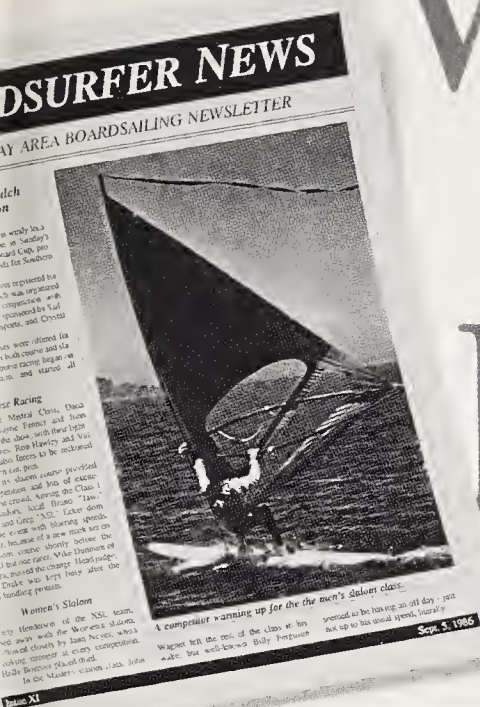


JACK DAVIS

GALLERY

Issue 1.3 emphasizes *Illustrator*, now that artists have had the necessary time to explore its powerful capabilities. Other high-res art programs are also used in an array of exciting original art by *Verbum* regulars and artists from around the world.

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